# A STUDY OF TRENDS OF CONSUMER CREDIT WITH A FOCUS ON THE INCREASE IN UNSECURED LENDING IN SOUTH AFRICA

**by**

**ZHARINA FRANCIS**

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**Supervisor: Mrs. R. du Randt**

**Co-supervisor: Professor D. Makina**

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## DECLARATION

Name: ZHARINA FRANCIS

Student number: 34195068

Degree: MCOM Business Management

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I declare that the above dissertation/thesis is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

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Miss Zharina Francis DATE

**ABSTRACT**

The objective of this research is to investigate the existence of structural changes in unsecured lending time series data and analyse the impact thereof on trends in consumer demand for unsecured credit spanning the years from 2008 to 2015. This is achieved by identifying dates when structural changes occurred over this period. The identified structural break date is linked to an influential economic event or monetary policy change that took place in South Africa of which the impact on three unsecured credit categories are analysed.

Unsecured credit growth in South Africa has been subjected to intensive scrutiny since the inception of the National Credit Act (Act No. 34 of 2005) by various regulatory bodies. In 2012 the National Credit Regulator (NCR) commissioned a research study into examining the impact that the National Credit Act (Act No. 34 of 2005) has had on the consumer credit market.

The empirical part of this study involved the gathering of time series data on unsecured loans approved, unsecured credit granted per income category and unsecured credit granted from the National Credit Regulator (NCR) database and performing descriptive and econometric analysis. The Zivot-Andrews (1992) and augmented Dickey-Fuller tests determined the break dates which were linked to a significant economic event while the one sample t-test of means compared average loan values before and after the break date.

Results of the study indicate that the break dates determined coincided with economic events and monetary policy changes in South Africa, such as the collapse of African Bank, the implementation of the National Credit Amendment Act, prime interest rate movements and the introduction of a debt counselling program by the government. These events, coupled with stricter lending criteria and no further loans being granted to customers already more than three months in arrears, restrained the uptake of unsecured loans to lower and middle income groups. The introduction of new affordability criteria and increasing interest rates in 2014 further negatively impacted demand for unsecured loans. However, higher income earners had the advantage of being able to apply for higher loan amounts.

Findings could be used by monetary policymakers and financial institutions to constantly monitor credit trends, improve credit assessment techniques and review lending criteria.

**KEY TERMS:**

Unsecured credit, consumer credit, structural breaks, credit trends, economic events, time series analysis, consumer demand, credit granting criteria, monetary policy, econometrics

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| | |
|---|---|
| NCR | National Credit Regulator |
| MiX | Microfinance Information Exchange |
| SARB | South African Reserve Bank |
| NCA | National Credit Act |
| MFI | Microfinance Institution |
| MFRC | Microfinance Regulator Council |
| SARB | South African Reserve Bank |

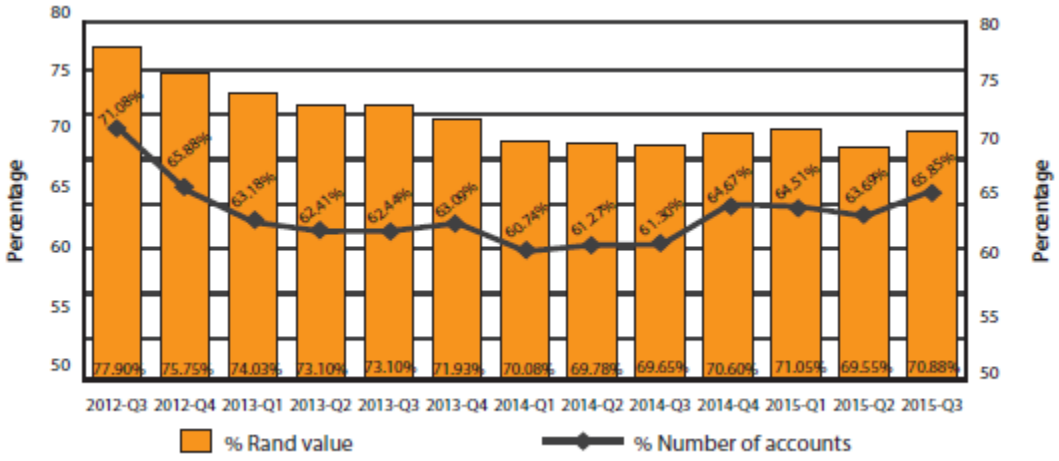
# CHAPTER ONE
# INTRODUCTION

## 1.1 BACKGROUND

The South African consumer credit market has witnessed a significant level of growth in the unsecured lending industry not only as a result of more and more consumers in need of credit choosing an unsecured financing option to sustain their lifestyles and finance assets, but also due to the tightening of secured credit lending criteria following the 2008 credit crunch. In light of the financial challenges faced by consumers, such as constantly increasing living expenses and unemployment, many credit providers have managed to identify unsecured personal loans as an attractive business opportunity. In so doing they have provided credit seeking consumers with simple and easy means to open credit accounts, apply for personal loans and open store accounts by simply texting personal details such as identity number and income to the number provided on an advertisement, without the proper consideration of their ability to repay amounts borrowed. This sudden increase in consumer demand for unsecured credit has attracted much media attention and prompted investigations by various regulatory bodies.

Figures 1.1 and 1.2 below indicate changes in demand for unsecured credit between 2012 quarter 3 and 2015 quarter 3. R29 billion worth of unsecured credit was issued against 1.5 million loan applications in the fourth quarter of 2012 (National Credit Regulator, 2012). Between 2012 Q3 and 2013 Q4 there was an 8 per cent decrease in the number of unsecured credit accounts and a 5.97 per cent reduction in rand value terms. Subsequent trends indicate further reductions in the amount of unsecured credit granted between 2013 Q4 and 2014 Q1. Thereafter, the reduction in the number of accounts and amount and credit granted were fairly stable. According to the National Credit Regulator, unsecured credit lending increased from R17.45 billion for June 2015 to R20.66 billion for September 2015 (a quarter-on-quarter increase of 18.4 per cent). As a percentage of total credit granted, unsecured credit continued to grow from 15.53 per cent to 16.67 per cent for the period September 2015 to September 2015 (Consumer Credit Market Report, NCR, 2015).

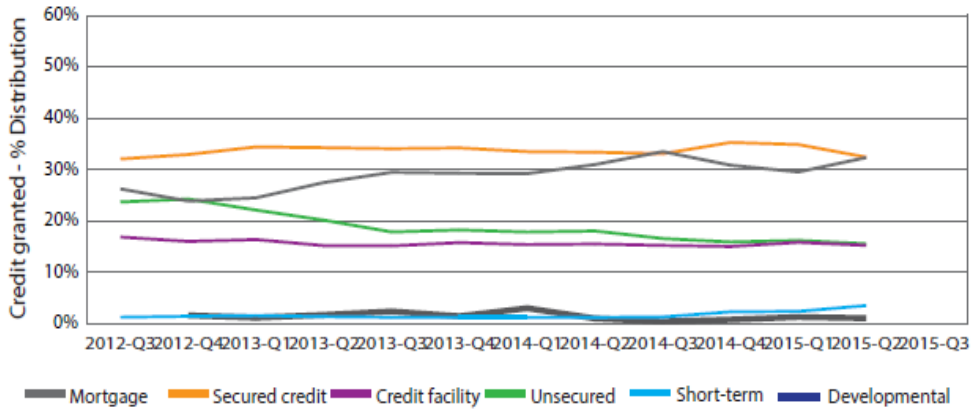
**FIGURE 1.1 TOTAL UNSECURED CREDIT GRANTED REGARDED AS CURRENT BETWEEN 2012Q3 AND 2015Q3**




Source: National Credit Regulator (2015)

The National Credit Regulator (NCR) regularly conducts research on various consumer credit products to not only keep abreast of consumer trends and patterns in the market, but also reports on changes in these trends to the Department of Trade and Industry and supplies information to the public in the form of financial education workshops. Many consumers are not fully aware of the extent to which they are protected by the National Credit Act (NCA) in terms of applying for credit and it is hoped that these workshops will empower consumers to make better financial decisions, as well as combat over-indebtedness and reckless lending.

**FIGURE 1.2 GROWTH IN CONSUMER LENDING PRODUCTS BETWEEN 2012Q3 AND 2015Q3**




Source: National Credit Regulator (2015)

This state of affairs is an ongoing concern and it is evident that consumers generally rely on these types of loans not only because of their easy access, along with no collateral requirements and little or no paperwork involved, but because they do not qualify for other forms of financing due to their unfavourable credit risk profiles. In the South African economy, renowned for high interest rates, soaring fuel and food prices, recently introduced e-tolls and wage strikes; unsecured lending is an extremely risky business for both lender and borrower. In the case of the borrower, consumers have a tendency to utilise granted credit purely for consumption purposes in anticipation of future growth in income; however, repayment principles are not always the way they should be. As debt levels increase, consumers become significantly susceptible to shocks such as loss of income and interest rate increases which often exacerbate the situation. The risk of defaulting on repayments also increases, which could result in a highly indebted consumer no longer regarded as creditworthy. Unlike secured debts (loans with a home or car as collateral), if a borrower is unable to repay an unsecured loan, the lender has no claim on the borrower's assets and may end up having to write off the full outstanding balance. In addition, unsecured loans are also written at substantially higher interest rates; the current maximum interest rate is 31 per cent per annum and costs include initiation fees, administration and insurance fees and a compulsory credit life insurance policy the borrower must apply for (National Credit Regulator, 2012). African

Bank specialises in providing personal loans ranging from R500 to R230 000, charged at interest rates that can reach 60 per cent annually, to people who lack collateral required to obtain secure credit at other banks, according to the bank's website (www.africanbank.co.za).

Skingsley (2014) explains that when assessing the affordability of a loan, it is crucial to consider the level of interest rates over time, which in turn determines the cost of servicing the debt. It therefore stands to reason that a greater responsibility exists with the credit provider to conduct a thorough affordability assessment, and with the borrower to provide truthful and factual information prior to the granting of credit. The National Credit Regulator recently announced plans to roll out improved and updated affordability assessment guidelines to all credit providers, in terms of the National Credit Act (NCA), in relation to all credit applications (National Credit Regulator, 2013). It is hoped that the introduction of these new guidelines will not only assist providers in conducting proper assessments but will also combat reckless lending and consumer over-indebtedness.

With a 20 per cent market share of the unsecured lending market and a lending approach that ensures client affordability levels are maintained and consistent over time, Capitec Bank bases all its lending decisions on a stringent credit policy adjusted in accordance with changes in market and economic conditions and allocates loan terms within the assessed default period along with the corresponding interest rates. For the quarter ended September 2011, unsecured lending at Capitec Bank grew by 58 per cent from 2010 quarter 3 as a result of the increase in loan amounts granted to clients who could afford more credit at the same monthly repayment (Capitec Bank Annual Report, 2012). Whilst the purpose of this lending is not recorded, indications are that the main uses are consolidation of debt, deposits in terms of home loan agreements or incremental renovations (Capitec Bank Annual Report, 2012).

Research conducted by the National Credit Regulator in 2012 indicates that it is South Africa's poor and residents in rural areas, traditionally excluded from participating in the financial system, who rely extensively on short-term and unsecured personal loans. Due to their insufficient credit history, unfavourable risk profiles and little or no savings, these customers are unable to secure financing from a regulated banking organisation and often turn to loan sharks and micro-lenders to apply for credit. A lack of or insufficient financial

literacy renders them in a position where they may not always understand the details of the loan agreement as well as the dangers of high interest rates. In exchange for the granting of the loan, or if the customer is no longer able to service the debt repayments due to a change in circumstances, lenders withhold ID books, pension and bank cards including pin numbers, which then allows them to withdraw whatever income the customer receives. Most of the time, borrowers are left with little or no income to survive on or pay living expenses (National Credit Regulator, 2012).

Consumer over-indebtedness has been on the increase over the past three years and if household debt and borrowing continue to grow at a rate faster than income over a long period of time, there is little chance that this trend towards demand for unsecured lending will be broken regardless of the interventions put forward by the National Credit Regulator. Too often, consumers are faced with aggressive, predatory selling practices pushing expensive and complex products that borrowers can hardly afford or do not even understand. Contract disclosures and descriptions are vague or unclear and consumers are forced to sign in haste. Therefore, it should not be a surprise that consumers are ill informed of their debt obligations, or true cost of the loans, especially in the case of unsecured loans, despite commitments by credit providers to lend responsibly (National Credit Regulator, 2013).

## 1.2 THE RESEARCH PROBLEM

The unsecured lending industry has not only attracted negative media attention due to the significant increase in demand for this type of financing, but has also prompted the publishing of numerous reports covering this topic. The National Credit Regulator reports quarterly on changes in consumer debt levels and attributes the growth in unsecured personal loans to the inability of households to cope with rising financial pressures, housing deposit requirements and the demand of an ever-changing social status and culture that prizes high-end brands from cars to shoes, which inevitably results in consumer over-indebtedness (National Credit Regulator, 2011). Lending statistics maintained by the National Credit Regulator further indicate that mortgage financing has grown at a constrained rate since the financial crash of 2008, with more people opting for an unsecured loan. The research problem investigated trends in demand for unsecured loans between 2008 and 2015 in and assessed whether unsecured credit is becoming a large component of household liabilities. According to the National Credit Regulator, the level of loan approvals has increased over the last 5 years from

55 per cent in Q4 of 2010 to 57 per cent in Q3 of 2012. A large portion of the loan approvals are being made to lower- and middle-income earners with a gross income of between R15 000 and R30 000 (National Credit Regulator, 2013). Against the backdrop of a slow growing economy, high interest rates and an unemployment rate of at least 25 per cent, is the growth in unsecured lending sustainable?

## 1.3 OBJECTIVES OF THE STUDY

The research objectives are to:

- Investigate and analyse the trends in demand for unsecured loans for the period 2008 to 2015.
- Determine structural break points in unsecured credit granted and link the dates to significant economic events or legislative policy changes that occurred in South Africa.
- Evaluate the impact of a structural break on demand for unsecured credit by comparing differences in loan mean values granted pre and post the break date.

## 1.4 RESEARCH HYPOTHESES

Hypotheses are predictions or statements that describe a relationship between two or more variables related to the research question and objective. Furthermore, the variables should also be measurable (Gerber & Hall, 2015). The steps involved in formulating a hypothesis are as follows:

*State the null and alternate hypothesis ($H_0$ and $H_1$) for each category of unsecured credit under investigation*.

*Choose a desired level of significance, known as an alpha value (α) and decide on the test statistic.* (In this case the t-distribution). Normally an alpha value of 0.05 will be chosen, representing a 95 per cent level of confidence. The choice of significance level should be based on the consequences associated with the type I and type II errors. Table 1 below indicates the two types of errors that can be encountered when performing a hypothesis test. Singpurwalla (2013) and Tyrell (2009) refer to the possibility of errors occurring when performing a statistical test. Rejecting the null hypothesis when it is in fact true is called a type I error. Not rejecting the null hypothesis when in fact the alternate hypothesis is true is called a type II error. If the consequences of making a type I error are more serious and expensive,

then choose a smaller significance level. If the consequences of making a type II error are more expensive and serious, then choose a larger significance level. However, if the consequences of making a type II error are much higher and more serious than those of making a type I error, a larger significance level may be chosen and vice versa. A large significance value means data are consistent with the null hypothesis.

*The third step is to compute the probability value (also known as the p value).* This is the probability of obtaining a sample statistic as significantly different from the parameter specified in the null hypothesis given that the null hypothesis is true. A probability value of 0.3 or 0.8 indicates that observed data would not be unusual if the null hypothesis were true. In this case the null hypothesis is accepted. If the results of the statistical test are such that the value obtained has a probability of occurrence which is less than or equal to the stated level of significance (α), the null hypothesis is rejected and the test result is declared significant (Singpurwalla, 2013).

*Select the data and choose the appropriate statistical test.* Nominal and ordinal data are subjected to non-parametric tests while interval and ratio data make use of parametric tests. For the purposes of this research study, a parametric test was chosen; the t-test.

*Calculate the t-statistic.*

*Interpret the test and make a decision whether or not to reject the null hypothesis.*

**TABLE 1.1 SCENARIOS RELATING TO PRESENCE OF TYPE I AND TYPE II ERRORS**

| | In Reality | |
|---|---|---|
| **Decision** | $H_0$ is TRUE | $H_0$ is FALSE |
| Accept $H_0$ | OK | Type II Error<br>$\beta$ = probability of Type II Error |
| Reject $H_0$ | Type I Error<br>$\alpha$ = probability of Type I Error | OK |

Source: Penn State University, Stat 502 (2016)

*Assumptions of the t-test:*

The data must be normally distributed. By default this also means that the variable under consideration must be continuous.

The variances of the two groups must be homogeneous. This means that the standard deviations should not differ significantly.

The hypotheses for each research category are defined as follows:

$H_{o1}$: There is no significant difference between the means of unsecured credit granted for the period pre and posts the break date.

$H_{a1:}$ There is a significant difference between the means of unsecured credit granted for the period pre and post the break date.

$H_{o2}$: There is no significant difference between the means of unsecured loans granted for the period pre and posts the break date.

$H_{a2:}$ There is a significant difference between the means of unsecured loans granted for the period pre and post the break date.

$H_{o3}$: There is no significant differences between the means of unsecured credit granted for the period pre and post the break date in terms of the various income categories.

$H_{a3:}$ There is a significant difference between the means of unsecured credit granted for the period pre and post the break date in terms of the various income categories.

## 1.5 PURPOSE OF THE STUDY

The research study focused on investigating trends in consumer credit in order to determine whether there were any structural breaks present in the time series. These structural breaks represent points in time, during the 8-year period, when a change in demand for unsecured credit is observed. In addition, an attempt was made to link the identified structural break date to a specific economic event or legislative change that took place in South Africa and abroad in order to explain the existence of the structural break. These identified trends in unsecured credit were analysed in terms of loans and credit granted to produce a better understanding of the impact unsecured loans have on the level of consumer indebtedness and why consumers prefer unsecured credit.

## 1.6 LIMITATIONS OF THE STUDY

The information and data required for the completion of this academic study is of a secondary nature and available from the National Credit Regulator. The data obtained from the National Credit Regulator institution only relates to loans and credit granted by regulated financial institutions and excluded data from non-regulated institutions, micro lenders and loan sharks. No data or financial information related to unsecured credit granted was obtained directly from any financial institution. Data of this nature subjective and access can be restricted due to its confidentiality or validity being questionable.

Data before 2008 was not available from the National Credit Regulator, which restricted the timeframe of the study from 2008 to 2015. 2016 data was also not yet accessible.

## 1.7 STAKEHOLDERS

A number of stakeholders may be impacted by this academic study. Stakeholder analysis determines who has the most positive or negative influence on an effort or who is most likely to be affected by the effort (Rabinowitz, 2013). Key stakeholders are the general public, National Credit Regulator, local and national government, researchers in this current field of study and academic institutions. The involvement of stakeholders in the research, whether directly or

indirectly, will extend beyond dissemination of information and research findings but to the analysis and understanding of the various stakeholders' interests as well.

### 1.8 STRUCTURE OF THE REPORT

Chapter 2 is a comprehensive review of literature pertaining to theoretical and historical perspectives of the role of credit in an economy and how it has evolved over the years. This is followed by a discussion of unsecured lending in the South African context in comparison to emerging and developed countries.

In Chapter 3, the research methodology and data collection methods are described in detail. Reasons behind the chosen methodology as well as a complete research design are discussed. This chapter also focuses on the techniques applied pertaining to data analysis and for managing reliability and validity. The chapter concludes with a short description of the study limitations.

Chapter 4 is completely dedicated to the reporting of the research findings and interpretation of results obtained during the application of the methodologies discussed in Chapter 3. Results are illustrated in the form of data tables and graphs.

Chapter 5 contains a discussion of the results based on data analysed in Chapter 4. Conclusions are drawn based on objectives stated in this chapter, the research purpose is affirmed and recommendations for further research are made.

# CHAPTER TWO
# LITERATURE REVIEW

## 2.1 INTRODUCTION

In this chapter a theoretical foundation is introduced to the research topic by presenting and discussing the various schools of thought pertaining to the history and origin of unsecured lending in both emerging and developed countries. A definition of unsecured lending will be followed by a discussion and review of the factors contributing to the growth of this industry, the current size of the industry in comparison to the size of the total credit market for developing and emerging economies, interest rates and applicable costs as well as the impact this type of lending has had on consumer levels of indebtedness.

Microfinance and microcredit are essential elements for economic development in any country and their approach is intended to uplift and improve the social status and living conditions of the poor. The significant growth of the industry has seen microcredit become recognised as a worldwide tool for alleviating poverty, especially among women and the entrepreneurial poor who struggle to secure other forms of financing due to collateral requirements and insufficient credit history. An unsecured loan is a form of financing that is not secured by any collateral. The lender has no guarantee that this loan will be repaid in full and in certain instances compels the borrower to take out a compulsory life insurance. This policy provides the lender with some form of relief should the borrower pass away before having repaid the loan (National Credit Regulator Research Report, 2012: 56-57). These small loans provide the opportunity to engage in income generating activities allowing the poor to care for themselves and their families. The Grameen Bank in India, where microfinance originated, uses a simple philosophy when granting unsecured loans. Borrowers start off with a small amount of credit for the first loan in order to assess borrower reliability, capability to repay and creditworthiness. Once the borrower has proven his or her ability to repay the loan, larger loan amounts can be granted while monitoring the borrower's financial and social situation. These strict lending policies prevent the bank from exceeding the maximum permissible bank financing amount. The loan period depends on the usage of the loan and capacity of the borrower to repay (Grameen Bank, 2010).

One of the main objectives of microfinance is to integrate the financial needs of the poor and low-income individuals into a country's mainstream financial system, thereby creating opportunities to

participate in economic activities. As many as 11.66 million individuals worldwide, between 2002 and 2011 (Kablan, 2013:1-5) have benefitted from microfinance programmes on poverty reduction and empowerment. The year 2005 was promulgated as the year of microfinance by the 2000 UN summit as a result of all the success stories associated with microfinance (Chowdbury, 2009), (Peprah & Koomson, 2014). Women especially have been the biggest beneficiaries of microfinance aid programmes and, according to Owusu et al. (2013), 67 per cent of Ghanaian women are clients of microfinance institutions (MFIs). Women are preferred due to their higher repayment rates in comparison to men and are found to be more reliable as they feel more obligated to repay the loan. MFIs have reduced transaction costs for women as clients because they are more punctual in attending meetings and are well organised. A woman's access to microfinance schemes automatically increases her economic power and well-being, which eventually leads to her social and economic development.

However, achieving this goal is not without significant risks and costs to both borrower and lender. According to Maurer and Pytkowska (2010), 17 per cent of micro borrowers become over-indebted and another 11 per cent are at risk of becoming over-indebted. Also, MFIs set interest rates very high, usually higher than market rates to maintain MFI financial sustainability and cover administrative fees. Often, high interest rates are the result of lack of market competition, loan size, default rates, demand for credit and the borrowers' characteristics (Cotler & Almazan, 2013). These exorbitant fee structures and high interest rates sparked as a direct result of market competition have triggered dissatisfaction among microfinance borrowers, which eventually led to the development of three schools of thought in this regard. The first school are firm supporters of the positive impact of microfinance. They are of the opinion that it develops the social status of lower-income groups, is essential for economic growth, and claim that it eradicates poverty. The second school of thought, although it gives recognition to the positive contribution made by the microfinance industry in uplifting the status of the poor especially women, argue that microcredit creates further indebtedness of the already over-indebted, exploits and traps borrowers in a vicious cycle of high interest rates and does not offer well diversified products to meet the unique needs of borrowers (Cotler & Almazan, 2013), (Kablan, 2013). The last groups of scholars take a neutral stance on the use of microcredit in an economy. This school pays tribute to the positive effects created by microfinance programmes but also points out the challenges and shortfalls within the sector (Kablan, 2013).

## 2.2 THE ROLE OF CREDIT IN AN ECONOMY

The credit industry is a large, complex environment which comprises a significant segment of any economy. Credit enables people to have use of a service or to purchase a large asset, which would otherwise not have been possible with the flexibility of being able to spread repayments over a period of time. Finlay (2009:3-5) defines credit as future money being made available in the present to smooth current consumption needs in a market where liquidity is constrained. As a result, there will always be a demand for credit. The International Monetary Fund (2012) argues that if use of credit improves financial inclusion, increases spending power and stretches income, it is considered a benefit. Credit becomes a burden as soon as it is too expensive, has non-transparent terms and conditions and repercussions exist for non-payment. The governor of Slovenia, during a speech on reinvigorating credit growth in Europe, stated that it is good borrowers who should be the beneficiaries of credit growth (Jazbec, 2014).

The financial credit system houses three credit markets: a formal financial market, a regulated micro lending sector and an informal, unregulated micro lending market. A formal financial market provides access to finance via formal channels such as banks and accredited financial institutions governed by regulatory laws and credit policies while serving predominantly middle- and high-income consumers. For years, this sector was dominated by British banks such as Barclays and, recently, the big four banks. The regulated micro lending sector grew in the 1990s and were free to charge uncapped interest rates; more than 44 per cent per annum (James, 2014: 2-5). Finally, the informal micro lending market is where consumers will often borrow from family and friends or are very likely to find loan sharks and micro lenders who target lower-income groups or high risk clients who could not secured financing from formal financial markets (Thou, 2014). All of these sectors are illustrated in Table 2.1 below.

**TABLE 2.1 CREDIT SUPPLY**

| Sector | Lender | Types of Loans |
|---|---|---|
| 1 | Mainstream formal financial sector | Bank loans, store cards, housing and vehicle finance |
| 2 | Regulated micro lending sector | Smaller, short-term loans |
| 3 | Informal and unregulated micro lending sector | Micro loans |

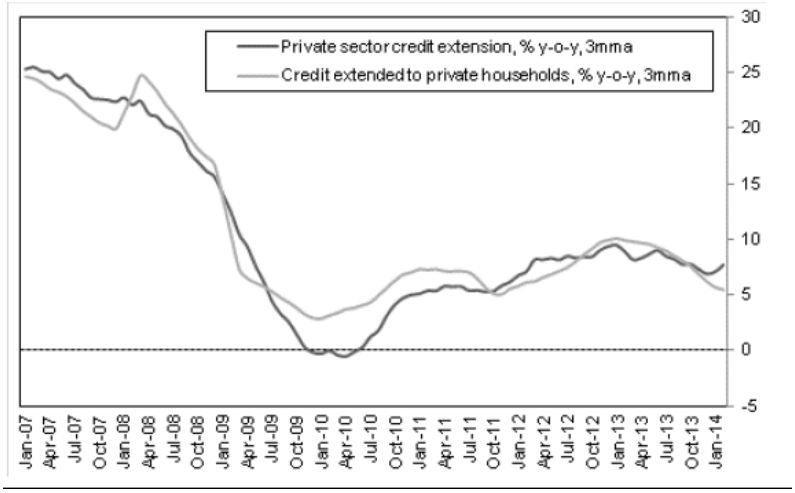
Source: Adapted from James (2014)

Microfinance is commonly associated with small, working capital loans that are invested in microenterprises or income-generating activities (Guntz, 2011). According to Mayer (2012), a loan shark is a strong defender of expensive and unregulated informal credit products, such as payday and unsecured loans where no collateral is required and access to finance occurs fairly quick and easy. The loan shark preys on the consumer's lack of financial knowledge and cares very little for the repayment of the capital as long as interest payments are received regularly. Due to the unregulated nature of financial transactions occurring in this market, there exists very little consumer protection against unscrupulous and reckless lending practices. Armendariz & Morduch (2010) argue however that loan sharks and moneylenders are indeed an important part of the financial landscape and their elimination from society could hamper financial inclusion. Many villagers in rural areas depend on their unique services and despite being dubbed 'exploitative loan sharks', the high interest rates being charged on loans granted, up to 100 per cent, could in fact provide a true reflection of just how costly it is to acquire capital to extend in the form of a micro loan, as well as transact, monitor clients and accommodate risk. When default rates are high, moneylenders may have to charge a lot merely to stay afloat (Armendariz & Morduch, 2010). According to Singla (2014), it is very necessary to stimulate banking services at a micro level so that the poor and lower-income groups can gain access to affordable financial services in a fair and transparent manner. Just like Grameen Bank and the Reserve Bank of India, NABARD (National Bank for Agriculture and Rural Development) was one the first

organisations to introduce microfinance among agricultural and rural activities, thereby allowing many small businesses to engage in farming activities and thus providing for their families (Singla, 2014) (Reserve Bank of India, 2011).

The consumer credit industry of South Africa was previously regulated by the Usury Act, Exemption Notices of 1992 and 1999 and the Credit Agreements Act 74 of 1980. These acts were subsequently replaced by the National Credit Act (NCA) on the 15th of March 2005 after a review of the consumer credit legislation and investigation by the Department of Trade and Industry in 2001 revealed hundreds of reckless lending cases. The high costs associated with credit, non-transparency of all relevant terms as well as extreme debt collection policies and strategies resulting in ineffective rehabilitation also came to light (National Credit Regulator, 2009). The National Credit Regulator (NCR) was established under the National Credit Act (NCA) and tasked with the responsibility of promoting the development of an accessible credit market, particularly to address the needs of low-income persons, and those in remote, isolated or low density communities. The role of financial inclusion has become significantly magnified as a means of improving the livelihoods and financial resilience of the disadvantaged, which is essential for economic growth in any country (Aziz, 2014). Figure 2.1 illustrates a surge in credit extension to private households in January 2008. A significant decline in the amount of credit extended, also known as a 'credit squeeze' occurred subsequently, which signalled the beginnings of what is referred to as the 2007–08 credit crunch. Since then, lending to both private sectors and households has been fairly stable (SARB, 2014).

**FIGURE 2.1 LENDING TO HOUSEHOLDS TICKING DOWN. SOUTH AFRICA: CREDIT EXTENSION**




Source: South African Reserve Bank (2014)

In understanding the use of credit, it is important to understand not only the sources of credit but the users as well. Individual and household demand for credit is subject to various factors such as level of income and wealth, household size, level of education, liquidity constraints, employment status, spending, savings and borrowing patterns (Kneiding & Kritikos, 2012). However, it is consumer creditworthiness, used as a main risk indicator to determine supply and granting of credit, which indicates the likelihood of the borrower defaulting on loan repayments and, unfortunately, this often tends to enhance credit usage because consumers are inclined to base their buying decisions on the apparent trust that is put in them through their credit ratings (Finlay, 2009). Research indicates that newly-wed couples, individuals between the ages of 35 and 49, are apparently keen users of credit because they find themselves in a stage of the family lifecycle where durable appliances, furniture and vehicles are needed to set up homes for themselves (Erasmus & Mathunjwa, 2011). Financial access should be complemented by the quality of financial services and products being provided, with absolute critical importance being the innovation and design of consumer products that are linked to the goal of welfare improvements for the underserved.

Different credit products require different explanations, and the type of credit as well as the amount required is associated with the risk and cost to the provider. Credit cards, for example, introduced in the late 1950's, have been identified as the second most popular medium of

payment for consumers in the United States of America, Malaysia, United Kingdom, Europe and Australia (Foscht et al., 2010). In their haste to consume now combined with aggressive credit card marketing practices, consumers are attracted to the illusion of greater spending power, convenience of easy money and elimination of the need to carry cash associated with credit cards (Teoh et al., 2010). The Central Bank of Malaysia reported 10.8 million active credit card users in December 2009 (Central Bank of Malaysia, 2009).

A study conducted by Awanis and Chi Cui in 2013, in the same country on young credit card users between the ages of 18 and 25, found that consumers with low self-regulatory capabilities and lack of proper financial decision-making techniques overvalue their income and charge all their expenses to the credit card. Not only are these customers being charged high interest rates on outstanding balances as a result of overspending, but they often carry a revolving balance in the credit card (Awanis & Chi Cui, 2013). Credit card loans are also becoming an emerging source of consumer credit in the Philippines with approximately three per cent of a five thousand household sample indicating the ownership of a credit card. A further four per cent made mention of applying for one in the next twelve months (Bank of International Settlements, 2008). Notwithstanding, credit card interest rates in the Philippines are among the highest in the world with no ceilings being imposed on the rate of interest, commissions and fees regardless of whether the loan is secured or not. In fact, interest rates charged to borrowers were capped at sixteen per cent before a reform in 1981, while inflation rates were around 20 per cent annually (Armendáriz & Morduch, 2010). It therefore should come as no surprise that the rate of consumer defaults is almost triple the average of Asia (Bank of International Settlements, 2008).

In contrast, the Bank of England reported significant changes in consumer credit card lending for October 2012, with the number of credit cards in circulation decreasing from 65.9 million to 54.5 million; this as a result of more and more consumers seeking to pay off long-term debt such as mortgages instead. The Office of Fair Trading launched of review of the consumer credit industry in the United Kingdom because of the concerns associated with the high cost of credit especially for lower-income groups who suffer from a lack of options. The recession has also limited the willingness of suppliers to lend money. This high cost of the credit industry includes short-term loans, payday loans and pawn broking. Payday loans are short-term unsecured debts involving the financing of small sums of money which are usually repaid when the borrower receives his or

her salary in the form of a lump sum. Access is quick and easy with limited requirements; approval decisions occur within a day or two and these funds help manage personal and emergency expenses (Consumer Finance Association of England, 2013). In the United States of America, with the advent of technology and traditional credit such as mortgage loans becoming harder to access, the growth in payday loans has been labelled 'explosive'. Consumers borrow around 500 US dollars or less at interest rates between 200 to 500 per cent per annum to cover medical expenses, utility bills, food and rent or just to minimise the temporary reduction in income until the next pay date. However, as soon as the borrower has repaid the loan, they usually take out another one as they find themselves with insufficient funds once again (Theodos & Compton, 2010). It is evident that when consumers engage in these high cost credit transactions, it is usually based on short-term affordability, or size of repayments with little or no consideration for the long-terms costs of the total repayment amount. The TransUnion Consumer Credit Index indicates that, as at January 2015, South African households are using just over 50 per cent of their credit limits. Revolving credit utilisation rose at a rate of about 2.7 per cent in the fourth quarter, driven by both credit card and other revolving store cards (TransUnion Consumer Credit Index, 2015).

Consumer credit preferences are revealed through their borrowing and market purchasing patterns and any voluntary loan is linked to the improvement or enhancement of welfare. Sociological factors such as pressures of consumer society, materialism (Jacobs & Smith, 2010) and the causal relationship between culture and consumption are drivers of the level of consumer debt. Therefore, restricting access to one or more forms of credit will not drive consumers to other forms of credit (White, 2012). In light of the welfare, economic and wealth creation benefits associated with credit, Kneiding and Kritikos (2012) explain the concept of financial intermingling which is defined as a healthy mix between responsible lending, regulation and financial education. These rules should be consistent and tested regularly to ensure that credit policies do not lead to financial exclusion and create a better understanding of consumer behaviour. Smith & Kotze (2008) found that a positive correlation exists between adequate financial knowledge and control over personal finances; a trait that is extremely beneficial and desirable especially in lower-income groups. To illustrate, the authors conducted a study to examine the credit preferences of self-employed and employed households. Using a regression model analysis technique, results were indicative of a greater need for overdrafts by self-employed households,

despite higher interest rates, due to better flexibility, no pre-defined or restrictive conditions, no prescribed minimum repayment required and because they can be used as a tool to finance business transactions and operations. Employed households, due to lack of collateral and savings, rely on short-term instalment loans (Smith & Kotze 2008).

In today's dynamic credit society, consumers from all income groups have a greater need for financial inclusion and, therefore, access to credit. However, provision of credit also encompasses responsible lending by credit providers and consumers being financially equipped and educated to make better financial decisions that will not result in over-indebtedness. According to Gonzalez (2008) (as cited in Schicks 2012:5), over-indebtedness occurs when the repayment outcome on the loan agreement does not correspond to the original expectations of either borrower or lender, or the loan repayment is three or more months in arrears. This can be as a result of outside influences such as political and economic shocks or personal shocks to income and expenses which render the borrower unable or unwilling to pay. Over-indebtedness is currently one of the most serious risks of microfinance, endangering both social impact and industry stability. It can push customers further into poverty with severe sociological, economical and psychological consequences, and simultaneously put the institutional stability of the MFIs at risk. Aggressive marketing techniques to encourage clients to borrow more, offering microloans as a substitute for formal loans or providing a household financial solution focused purely on smoothing consumption, creates a risk that the borrower might end up taking financial products inappropriate to his/her specific situation, which then further adds to the burden of over-indebtedness (Schicks, 2012:8-11). Unsolicited yet lucrative credit offers create the illusion of 'easy money' and cause many consumers to take on more debt than they believe they should. First-time credit users and middle-income consumers are vulnerable to ever-increasing credit and store cards limits, unsolicited mail offerings for loans and credit, misleading advertising and promotional offers, and coercive sales techniques employed by aggressive agents and brokers. These consumers may be living beyond their means and are most at risk (South African Department of Trade and Industry, 2012).

To date, various studies have been conducted to assess the impact of microfinance on poverty reduction. Results indicate a positive impact towards the improvement of economic and social conditions of the poor, but not without the incurrence of over-indebtedness (Banerjee et al.,

2008). In South Africa, the National Credit Act defines over-indebtedness as the inability of the consumer to meet all his obligations under all his credit agreements in a timely manner (National Credit Regulator, 2012). The Microcredit Summit Campaign reported in 2011 that 128.2 million poor households have benefitted from microloans and another 100 million consumers are rising above the poverty line worldwide. Not only did this report indicate growth in this industry, but also revealed a lack of formal financial services available to the poor which then impedes economic activity. The report further demonstrates that the poor can be reliable in their repayment commitments however; the onus lies with both borrower and microfinance lender to adopt a zero tolerance policy towards loan repayment defaulting (State of the Microcredit Campaign Report, 2011). A study conducted in 2012 by the National Credit Regulator (NCR) on the increase of unsecured personal loans in the South African credit market revealed 38.3 million active unsecured credit accounts. A total of 61.98 per cent of these accounts are held in the form of credit cards, store cards and overdrafts (National Credit Regulator Research Report, 2012). By identifying and monitoring trends in repayment behaviour, distinguishing between consumption and investment loans, full transparency in the disclosure of all costs and terms and conditions of a loan as well as comprehensive affordability assessments, microfinance institutions are not only developing best practice mechanisms that help prevent borrowers from becoming over-indebted, but are also educating them on the risks and benefits of micro lending (Karlan & Zinman, 2009).

## 2.3 THE HISTORY OF UNSECURED LENDING

According to Guntz (2011:1), an estimated 3 billion poor consumers worldwide seek access to basic financial services every year. Traditionally excluded from a financial and corporate banking system that considers them 'unbankable' or high risk due to their inability to provide collateral, limited or no credit history or insufficient income to qualify for secured credit, these consumers are forced to seek alternate forms of finance. Microcredit is the core service of microfinance; it aims to integrate the financial needs of the lower-income and entrepreneurial poor into the country's mainstream financial system. Through the provision of services such as loans, savings, money transfer services and micro insurance, many poor individuals are allowed the opportunity to establish a simple income-generating activity facilitating their eventual escape from poverty (Bateman, 2011), (Thou, 2014), (Hamada, 2010). The unsecured lending industry attempts to accommodate these lower-income groups and build financial capacity by offering small, short-term loan facilities at lower repayment terms.

Credit extended, mostly in the form of personal loans, does not require the provision of any form of collateral or deposit and it only allows consumers, if properly applied, the opportunity to improve their standard of living and general welfare, acquire assets, increase income and prevent defaults, especially among women-headed households (Rosenberg, 2010). Subsidiary advantages include creating a credit history for the borrower and instilling a sense of responsibility through loan repayment (Bhuiyan et al., 2013). Evidence suggests that microcredit appears to be appropriate for clients with relatively high capacity for risk and an entrepreneurial ability that will allow them to create a profitable business and in turn repay the loans (GCAP, 2011:1-3)

The nature and origin of unsecured lending can be traced back to the early 15th century in Europe with the founding of 'pawn' shops which extended loans to consumers in the absence of protection against usury laws, and early 19th and 20th century which saw the birth of agricultural credit associations with the sole purpose of providing finance to poor farmers, which gave them access to production and sales markets (Guntz, 2011), (Rosenberg, 2008). The establishment of the Grameen Bank by Muhammed Yunus in 1983, against the advice of banking officials, earned him the title of Banker to the Poor and the Nobel Peace Prize in 2006 (Yunus, 1999). Grameen Bank was established on the foundation of empowering the poor and eradicating poverty. The World Bank's 2008 Poverty Assessment found that since the bank's inception in 1983, Bangladesh has experienced significant economic growth, poverty has reduced from 60 to 25 per cent in 2005, and microcredit also provides a safety net for poor households to insure against economic shocks. Grameen clients are most often too poor to be able to offer collateral; instead, the Grameen contract takes advantage of the client's close ties within their community. To take advantage of those relationships, the loan contract involves groups of customers, not individuals acting on their own. The groups form voluntarily, and, while loans are made to individuals within groups, all members are expected to support the others when difficulties arise (Khandker & Zaman, 2011).

The Grameen banking model has since been adopted and modified by many other banks such as Spandana, which has become one of the largest and fastest growing microfinance banks in India. In March 2008, the bank had 1.2 million active borrowers, most of whom were women.

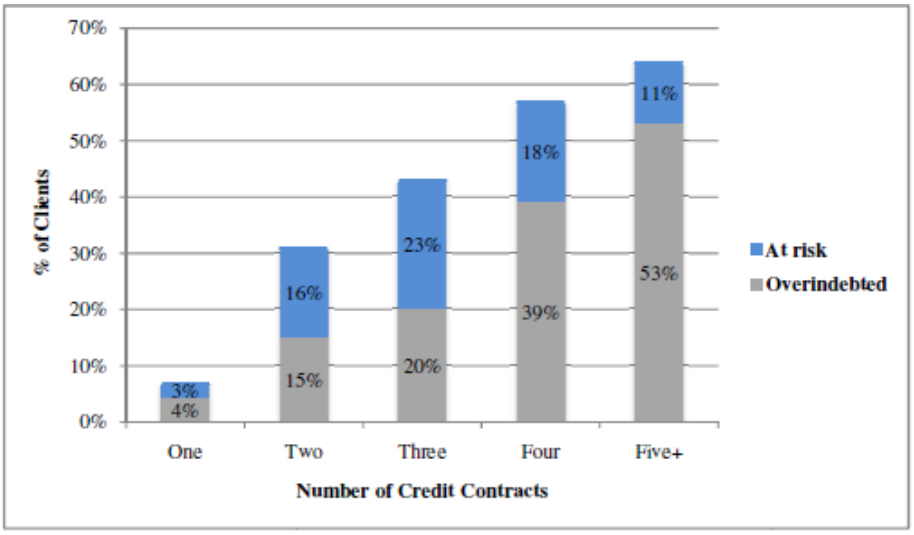
Their group lending product is the most popular form of financing and is allocated in increments of 10 000 Rupees to groups consisting of six to ten women at an interest rate of twelve per cent per annum. Business start-ups are not a requirement in terms of eligibility but borrowers should be females aged between 18 and 59 years, and at least 80 per cent of the women in the group should be home owners and should have lived in the same home for at least a year to qualify (Banerjee et al., 2009:4). It is important to restrict the size of individual loans as larger loans can lead to over-borrowing, diversion of funds and size of instalments that are beyond the repayment capacity of the borrower (Reserve Bank of India, 2011). The Malaysian government also attempted to replicate the Grameen Bank group-lending model in 1987 and established AIM (Amanah Ikhtiar Malaysia) as a non-profit organisation focused on providing financial services to those households previously excluded from the financial system. Loans were interest free[1] and borrowers were only liable for a ten per cent operational and management fee (Sayed et al., 2014:383). The result: AIM soon became the largest MFI in Malaysia, servicing approximately 82 per cent of Malaysian poor households with a loan repayment of 99, 2 per cent, the highest in the world.

The MFI has celebrated many achievements in promoting access to finance, encouraging economic growth and has assisted in reducing poverty in many countries and economies. Today, however, the industry is facing extensive global criticism for exploiting the poor in order to achieve profit motives, and the impact of the 2008 financial crisis revealed many cases of over-indebted borrowers and situations of multiple borrowing from different micro lenders at the same time (Schicks, 2012). Together with the increase in the demand for microfinance, the industry has also witnessed an increase in the availability of microfinance products but with significantly questionable practices, such as high interest rates and intense competition between lenders who face tremendous pressure in growing their portfolios, raising capital and managing operational expenses in order to remain sustainable (Khavul, 2010). Providing microfinance is a costly business due to high transaction, administration and information costs. In order to remain competitive, micro lenders will seek out other business ventures that offer more profitable consumer lending products where markets do not make certain types of lending attractive.

1 This is based on Islamic principles which prevent the accrual and payment of interest on loans. Also known as Riba or sinful acts.

Sinclair (2012: 1-10) provides an insightful look into the world of microfinance by explaining how microfinance was initiated under the premise that expanding access to credit will alleviate poverty, yet it ended up being used by many mindless and corrupted credit providers as an avenue for exploiting the poor and maximising their profits instead. He further argues that competition is good for borrowers because it allows the freedom to shop around for alternative finance products which offer reduced interest rates and costs as well as improved customer service. Consumers may have a valid reason for taking up a loan but never to the extent of over-borrowing, borrowing from multiple providers or finding themselves in financial distress. Lax lending procedures, extending the repayment term, excessive interest rates and extreme debt collection techniques add to the borrower's burden. In countries such as Bolivia (Wagner & Winkler, 2012), South Africa, India, Ghana, and in certain parts of Europe, this over-indebted crisis has already materialised. At least 30 per cent of borrowers among the urban African population are struggling financially to cope with debt repayments (Adjei et al., 2009), (Alam, 2012), (Schicks, 2012). Maurer et al. (2010) also indicate that the level of over-indebtedness increases with the number of active loan contracts held by any borrower at any given time. Among clients with a single loan facility, only four per cent are over-indebted compared to fifty-three per cent who have five or more loans.

**FIGURE 2.2 MULTIPLE BORROWING AND OVER-INDEBTEDNESS**




Source: Maurer, Klaus, & Pytkowska (2010)

In 1985, Bolivia, an extremely poor South American country was restructured by the International Monetary Fund (IMF) as a result of hyperinflation. In the cycle of microcredit, the role of the government is that of an enabler and not as a direct provider of financial services (Effendi, 2013). Governmental policies on enhancing microfinance institutions and supporting their financial services for the poor are more meaningful than providing their own lending systems. At the end of 2007, the government of Bolivia launched a programme aimed at relaxing its banking regulations and the subsequent promoting of micro lending by various non-banking associations that extended various small loans to consumers for the purchase of durables (White, 2012: 1093-1139). The demand for these loans grew substantially prompting the entrance of more competitors into the industry but with less regard for assessment of the borrower's capability to repay the loans. Caught in a debt trap, many consumers ended up borrowing from one creditor to repay another, which led to the collapse of the industry in 2001. The Bolivian government was soon forced to implement regulations and policies to help debtors postpone repayments on their loans.

Similarly in South Africa, prior to the implementation of the National Credit Act, the market saw a rapid increase in small 30-day unsecured lending products mostly targeted at lower-income individuals at very high interest rates (National Credit Regulator, 2012). Lending standards and practices soon became questionable as many consumers found themselves in a position of over-indebtedness. This gave rise to a huge amount of customer complaints regarding unfair lending and ruthless collection practices, uncertainty and lack of understanding regarding the products applied for as well as ambiguity in lending criteria. In 2005, the National Credit Act was enacted which meant credit agreements could be declared reckless if evidence could be found that no due diligence and proper procedures were followed, no affordability assessment was conducted, the credit provider did not disclose full details of the agreement and did not explain and ensure that the borrower was fully aware of all the associated terms and conditions (National Credit Regulator, 2009). If the credit provider or providers are found guilty of reckless credit provision, the ultimate penalty will be the suspension of the credit agreement. Despite the implementation of the Act, many consumers are still battling to pay off their loans.

Unsecured credit extension increased from R21.21 billion for September 2011 to R26.45 billion in December 2011; 63.9 per cent of this increase was attributed to loans being granted in the monthly gross income category of 'Up to R10k'. In the same quarter, the amount of impaired

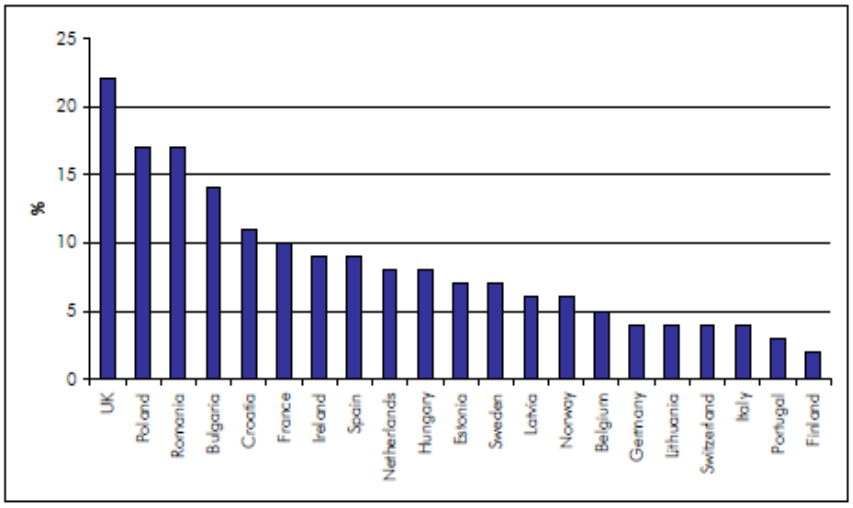
customers also increased by 100 000. More than 10 000 of these customers had missed three or more instalments on their debts (Consumer Credit Market Report, 2011). A study conducted by Disney et al. (2008) in the United Kingdom on the drivers associated with over-indebtedness revealed over-borrowing from various micro financiers, a failure to insure against income and economic shocks, unemployment, ill health and, most importantly, poor financial decision-making as the main contributors to the financial difficulty faced by many consumers. Households headed by individuals aged between 20 and 30 years tend to have the highest debt to income ratio and credit commitments as a result of a need to sustain their families, acquire assets and smooth consumption.

The economic and social impact of microfinance became relevant in the late 70's and 80's in Europe and its influence has been growing ever since. Poor communities had no access to formal financial markets especially during the period leading up to the global financial crisis. Many sought to borrow from family and friends to enable them to manage debt repayments and smooth income demands. Microfinance programmes were established to provide financial access in the form of small business loans which act as catalysts in assisting the poor in start-up businesses to help them earn a living (Coeuré, Bank of International Settlements, 2014). By 2011 Europe had 8 000 microfinance institutions serving seven million borrowers with a portfolio of just over 16 billion USD (Ahmeti, 2014). The focus was to create viable and sustainable business solutions that could reach the majority of unemployed and poor workers and financial support consisted not only of credit offerings but also savings and insurance products. The average loan size varied between 25 and 7 700 Euros at an interest rate of less than 10 per cent, with most loans needing to be repaid within five years of disbursement (Erikkson et al., 2011). In Denmark and Netherlands, micro loans to households accounted for 80 per cent of overall bank lending (Coeuré, 2014). At face value, this figure could easily be interpreted as a significant improvement in the provision of financial access to poor communities; however, this could also indicate a higher level of consumer debt and greater need for banks to apply more prudent lending standards when granting loans. These consumers could become extremely vulnerable to economic and income shocks, which are catalysts for consumer over-indebtedness (Wagner & Winkler, 2012). Interest rates vary between countries and are dependent on pricing policies, usury and consumer protection laws. Micro borrowers are prepared to pay whatever interest rate is charged by the finance house because they value access to finance more than the interest

accrued (Erikkson et al., 2011). There are, however, significant variations in interest rate levels between different MFIs, with a rate of 80 per cent in Uzbekistan as the extreme. The global average in 2008 was approximately 35 per cent (Kneiding & Rosenberg, 2008).

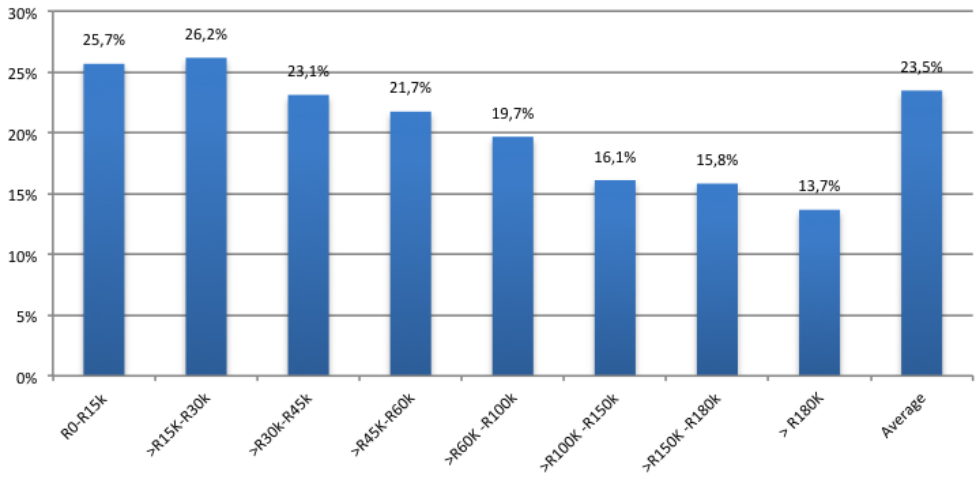
Rosenberg et al. (2009) state that the interest rate levels set by MFIs are likely to be higher than those set by traditional banks even in the future, due to the higher transaction costs and higher risk faced by MFIs. In the United Kingdom, a country without interest rate caps, the highest reported interest rate was 36 per cent and the lowest was 5 per cent on an unsecured loan (Helmut, 2009), (Erikkson et al., 2011). Figure 2.3 provides an overview of the average interest rates charged on micro loans by various countries. Figure 2.4 reflects that there is differentiated pricing across different loan sizes, ranging between an average rate of 26.2 per cent for the highest cost category and some 13.7 per cent for the lowest cost category, the overall average being 23.5 per cent for micro loans in South Africa (National Credit Regulator 2012).

**FIGURE 2.3: AVERAGE MICRO LOAN INTEREST RATES FOR SELECTED COUNTRIES**




Source: European Investment Fund (2012/13)

**FIGURE 2.4 MICRO LOAN PRICING ACROSS VARIOUS LOAN AMOUNTS IN SOUTH AFRICA**




Source: National Credit Regulator (2012)

The impact of microfinance is very significant and prevalent in the rural areas of some of the poorest countries. It is considered an important tool for eradicating poverty from a country by providing financial services to the small entrepreneurs to start or expand their business operations (Singla, 2014). These small entrepreneurs ultimately become a source of employment for the people belonging to local communities where there are limited or no jobs. According to Singla (2014), the availability of microfinance in the rural areas has reduced the dependency of poor people on unofficial or non-institutional moneylenders charging higher rates of interest. Kosovo is considered as one of the smallest and poorest countries in Europe, with a 40 per cent poverty rate; however, at least 7 per cent of the total credit market is controlled by microfinance institutions. MFIs reached their strongest growth in outreach in 2008 and into 2009 due to a growing need for micro loans. During this period, the total amount of borrowings increased by 20 per cent and the largest amount on loans issued occurred in 2009. In addition, these organisations are registered at NGOs and activities are tax exempt (Ahmeti, 2014). Loans are provided in the absence of collateral but borrowers are required to maintain a savings account with the institution, which equates to a percentage of the loan amount. This practice reduces the net loan disbursement that the borrower can actually use while paying interest on the full loan amount (Rosenberg et al., 2011).

## 2.4 OVERVIEW OF UNSECURED LENDING IN SOUTH AFRICA

The unsecured lending market is characterised by significant volatility as a result of consumer demand and confidence as well as monetary policy changes, which in turn influence credit lending volumes. Initially aimed at alleviating poverty and integrating the financial needs of the poor and low-income individuals into a country's mainstream financial system, unsecured credit attracts higher interest rates due to market competition, loan size, default rates and demand for credit (Cotler & Almazan, 2013). The South African financial sector has undergone a series of important regulatory and economic changes since the early 1990's such as the Exemption Notice to the Usury Act, which saw the caps on unsecured lending rates being reduced, the 2008 financial credit crisis, unsecured credit reaching an all-time high in 2012, the tightening of lending criteria commencing in early 2013 and the introduction of the NCA (National Credit Regulator, 2014). Only loan amounts of up to R500 000 were covered and, in the case of the Exemption Notice, loans less than R6 000 were exempted from the provisions stipulated. Interest rates were not capped which created an opportunity for many credit providers and loan sharks to start charging whichever interest rate they saw fit. Legislation did not allow credit providers to make full disclosure of the terms and conditions and no penalties were imposed for lack thereof. These acts have since become outdated and many factors have impacted on the consumer credit industry. Many of these impacts have sought to not only address unfair and discriminatory lending and collection practices but ensure regulation of the micro lending industry. By compelling all micro lenders to register with the Micro Finance Regulatory Council and imposing penalties for non-compliance, many borrowers are protected from unfair lending practices. The result of all these changes was the implementation of the NCA (National Credit Regulator, 2008). One of the main objectives of the act is to create a single, transparent and efficient credit system governed by legislation to protect borrowers and credit providers against unfair credit practices under the administration of a single body known as the National Credit Regulator. In addition, the importance of conducting proper credit assessments, especially in the case of an unsecured loan where no underlying asset is being considered, is crucial. During a study in India of the number of unsecured reckless lending cases, post the financial credit crisis, it was revealed that more than 70 per cent of micro borrowers believed that most of their loan contract details lacked transparency, while costs were unclear or not communicated in writing (Bhuiyan, 2013). In South Africa, during 2014, the National Credit Regulator investigated 153 cases related to reckless

lending, non-disclosure of credit terms and conditions, affordability assessments and excessive interest rates (National Credit Regulator Annual Report, 2014).

In light of these events, unsecured lending time series data may initially be trend stationary but react differently due to the number of financial and economic events occurring over the period of investigation. In the methodology and data section of this paper, the relevant break point detection techniques are critiqued and the chosen approach is applied to the time series data based on a break point unit root test.

Consumers in South Africa have recently come under tremendous pressure as living costs have risen and job losses have dented income. The majority of households do not have access to high quality financial products like mortgages and vehicle finance, but qualify only for in-store cards, hiring purchase credit or cash micro loans, all at high interest rates. Despite those high interest rates, South Africa is experiencing a continuous growth of the micro-lending sector in terms of size and loans, which leads to over-indebtedness among lower-income groups and to a spiralling debt trap. Many rely on credit, predominantly unsecured personal loans to smooth consumption, financing education, the purchase of homes and vehicles, financing funerals or an unexpected financial event (SA Commercial Banking Report, 2014), (Capitec Bank, 2014). Del Rio and Young (2005) attribute changes in unsecured debt of individuals to changes in economic circumstances (changes in level of income), changes in personal financial preferences and changes in macroeconomic conditions (interest rate hikes). A strong positive relationship also exists between the amount of unsecured credit held and level of income; higher-income earners have a tendency to acquire more unsecured debt as opposed to lower-income earners. Daniels (2001) re-affirms the theory of a positive linear but ambiguous relationship between level of income and indebtedness by noting the existence of an upward trend in debt amount by South African households earning between R40 000–50 000 per month and R50 000–75 000 per month. The results are in contrast to lower-income households, which one would expect to have greater levels of debt since the inception of micro financing.

Due to the lack of collateral and weak credit history, many are left financially 'stranded' and forced to seek other, unsecured forms of financing to meet their needs. Banks, Mashonisas[2] or loan sharks and retail stores have been identified as the main sources of unsecured loans. There are two financial institutions that have been more successful in increasingly providing short-term loans to the mass and middle loan market. They are African Bank Investments Limited and Capitec. Other institutions have also joined the unsecured lending stream such as Capfin, Wonga, First National Bank and Nedbank. Indications pertaining to the loan amounts and terms are a direct result of lack of interest in providing secured or mortgage lending to the mass market. There were at least 21.7 million credit active consumers in 2014 in South Africa compared to 19.3 million in 2012 and each year the level of unsecured debt users grows (National Credit Regulator, 2014). According to the National Credit Regulator in 2012, one per cent of the population admitted to having a micro loan from a formal provider, whilst no-one admitted to having a loan from an informal provider. However, 8.3 million micro loan accounts were registered at the time via the MFRC. Consumers prefer this type of financing because the application process is quick and informal, limited or no paper work is required, credit checks and affordability assessments are not very comprehensive or detailed and cash is available almost immediately (National Credit Regulator, 2012). Under the National Credit Act credit providers are legally obligated to provide consumers with a fully specified, no obligation and free quotation outlining all the details pertaining to the loan, which is valid for five to seven days. Repayments should also not exceed 30 per cent of consumer income. During that time, consumers are free to consult other credit providers and consider other offers. Customers are also protected from receiving unsolicited communications, false advertising and cold calling. Only 40 per cent of consumers shop around for better deals on credit (National Credit Regulator, 2014). In the case of Capfin, consumers looking to take out a loan need only visit their nearest Pep store with their ID books. Validations and pre-screening approvals are done at the cashier's till and customers will receive an answer on their applications within fifteen minutes via text message on their cell phones. Interest rates are based on individual credit scoring and can range from anything between 20 to 50 per cent, whereas a mortgage bond interest rate is between 10 and 15 per cent in comparison to the current prime rate of only 10.50 per cent (SARB, 2016). Based on the amount of credit seeking

2 Mashonisas is the common term for referring to illegal and unregistered loan sharks or institutions that provide unsecured loans at exorbitant interest rates.

consumers, there is no doubt that this industry has become very competitive with various credit providers and banks competing for growth; there have even been talks of a credit bubble developing. Part of the unsecured lending offering is the credit life policy component. This is a mandatory requirement when applying for an unsecured loan and pays out a lump sum on the account of death, disability and, in some policies, retrenchment of the borrower. The cost of the policy does not necessarily form part of the total cost of the unsecured loan and increases the total cost of credit to the consumer. The policy provides some recourse for the lender if the borrower is no longer able to fulfil the conditions of the credit agreement. The premium should also be recovered as a part of the loan repayment instalment and not upfront and there should be regulations for the proper disposal of the policy proceeds in the event of the death of the borrower or maturity of the policy, or for its assignment on the settlement of the loan (Armendariz, 2010: 166-167), (Capitec Bank, 2014).

The SA Commercial Banking Report (2014) indicates significant growth in personal loans over the last five years, which in turn has led to deterioration in consumer credit health (SA Commercial Banking Report, 2014). According to Dynan (2012), the amount households borrow and spend at any given time is based on the resources acquired over their lifetime, assets acquired, level of income as well as interest rates on amounts borrowed. Access to finance can also protect households from falling into poverty, which reduces vulnerability against negative income and economic shocks. Financial innovation has inspired the development of so many different financial products, households and individuals are spoilt for choice and now have a much broader access to credit, especially for those who have weaker credit records and lack collateral, but sometimes at a much higher cost (Dynan, 2012).

Despite access to credit being used as a measure of financial exclusion (International Monetary Fund, 2012), extensive credit extension without proper consideration of the associated risk, cost and affordability assessments will result in consumer over- indebtedness. At present, there is no single generally accepted measure of over- indebtedness but, according to the European Commission, in two countries (the United Kingdom and Belgium) studies show that the profiles of financially excluded and over-indebted people are quite similar. Households receiving social benefits, unemployed people, single people and lone parents are disproportionately likely to face over-indebtedness and financial exclusion, although unbanked people were more likely to have a

lower socio-economic status than those who were over-indebted. In the case of unsecured loans, as soon as households are spending more than 25 per cent of their gross income on unsecured loan repayments, they will soon find themselves in a position of vulnerability to income and economic shocks that will eventually lead to difficulty in fulfilling the conditions of the loan (European Commission, 2008). South Africa, along with Malaysia and the United Kingdom enjoys a number one position in the World Bank's 'Doing Business' Access to Credit ranking, which translates to having a rich repository of credit information, financial inclusion and legal enforcement rights. However, the negative consequences associated with such a prestigious position is the country's R1.44 trillion personal credit market of which 10 per cent is attributed to families and households earning up to or less than R10 000 per month, and a debt to disposable income ratio hovering at just over 75 per cent (Bankseta, 2013), (National Credit Regulator, 2012). The second quarter of the Consumer Credit Market Report for 2014 indicated an increase in unsecured credit agreements and transactions from R18.82 billion in March to R19.32 billion in June, after an initial drop in the first quarter. This constitutes almost 20 per cent of total credit granted for the quarter as per Figure 2.5. According to data obtained from the National Credit Regulator, the current size of the unsecured credit market, as a percentage of the total credit market, is between 11.15 and 11.3 per cent. New credit granted, as per Table 1, ranges between 17.82 and 22.09 per cent for loan amounts in excess of R15 000 with a repayment term of three to five years[3] (National Credit Regulator, Consumer Credit Market Report 2013, 2014).

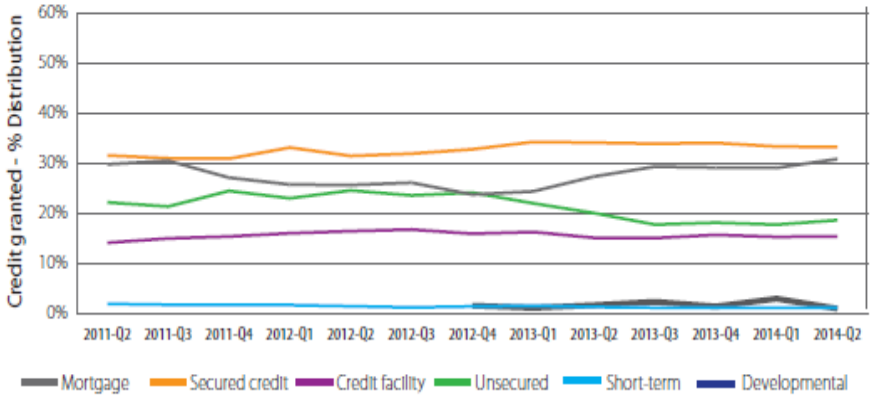
3 Comparison of new credit granted as well as gross debtors book for period March 2013 to March 2014 as per Consumer Credit Market Report for both periods (National Credit Regulator 2013, 2014).

## FIGURE 2.5 RAND VALUE OF UNSECURED CREDIT GRANTED –SIZE OF AGREEMENTS

| Rand value of agreements | 2013-Q1 R000 | 2013-Q2 R000 | 2013-Q3 R000 | 2013-Q4 R000 | 2014-Q1 R000 | 2014-Q1 % Distribution | % Change (Q1/Q4) | % Change (Y/Y) |
|---|---|---|---|---|---|---|---|---|
| R0K-R3K | 456,959 | 495,429 | 516,650 | 586,728 | 526,011 | 2.79% | -10.35% | 15.11% |
| R3.1K-R5K | 625,759 | 597,838 | 448,240 | 488,436 | 440,923 | 2.34% | -9.73% | -29.54% |
| R5.1K-R8K | 1,241,267 | 1,146,874 | 842,292 | 931,477 | 753,361 | 4.00% | -19.12% | -39.31% |
| R8.1K-R10K | 883,311 | 822,731 | 659,197 | 664,569 | 502,941 | 2.67% | -24.32% | -43.06% |
| R10.1K-R15K | 1,700,627 | 1,643,704 | 1,340,822 | 1,436,494 | 1,141,560 | 6.06% | -20.53% | -32.87% |
| > R15.1K | 17,684,874 | 17,357,868 | 17,089,996 | 17,507,178 | 15,457,516 | 82.12% | -11.71% | -12.59% |
| **Total** | **22,592,797** | **22,064,444** | **20,897,196** | **21,614,882** | **18,822,312** | **100.00%** | **-12.92%** | **-16.69%** |

Source: National Credit Regulator (2014)

## FIGURE 2.6 UNSECURED CREDIT AS A PERCENTAGE OF TOTAL CREDIT GRANTED FOR QUARTER ENDED JUNE 2014




Source: National Credit Regulator (2014)

The Marikana Massacre[4] is believed by many to be the result of a microfinance crisis which spiralled out of control and left many miners at the mercy of loan sharks. In a desperate attempt to repay their already overdue loans, miners went on wildcat strikes to demand salary and wage increases (Bond, 2012). Over-indebtedness is more prevalent among consumers in rural areas in South Africa at all income levels. Often, unusual or unplanned financial circumstances may put an individual into short-term debt from which they only recover much later. The Financial Diaries 5consider a person to be over-indebted if consumption debt exceeds 20 per cent of annual income (Financial Diaries, 2008: 472-473). According to the National Credit Regulator, the current debt to disposable income ratio for 2013 to 2014 for South Africa is 74.3 per cent. This is an indication that a large portion of household incomes is still being allocated to outstanding debt (National Credit Regulator Annual Report, 2014:12). During a study on the quantity and measures of over-indebtedness of micro borrowers in Ghana, Schicks (2012) positively tested the hypothesis that delinquency is positively related to over-indebtedness. The Ghana micro credit market experienced a compound annual growth rate of 173 per cent on gross loan portfolios between 2001 and 2007 and, despite restrictive lending approaches employed by microfinance organisations, 30 per cent of consumers were struggling financially to keep up with repayments or were between one and three months in arrears as a result of non-payment. A debt to income ratio of 50 per cent was established as the best predictor of aggregate level of over-indebtedness (Schicks, 2012).

Faced with this massive debt burden, it is clear that the type of credit and the interest rate attached to such type of credit plays a huge role in determining affordability patterns, and any type of interest rate increase will not only harm consumers but also the institutions that provide the credit in the event of the consumer falling into arrears with repayments. In an effort to alleviate possible over-indebtedness, the National Credit Act introduced various debt relief mechanisms

4. On 16 August 2012, the South African Police Service opened fire on a crowd of striking mineworkers at Marikana, some 100km northwest of Johannesburg in the North West Province. The fateful event left 34 mineworkers dead, 78 wounded and more than 250 people were arrested. The protesting mineworkers were demanding a wage increase at the Lonmin platinum mine (South African History Online, 2014).

5 Financial Diaries are one of the innovative research methods used by MFO. They track the cash and non-cash monetary inflows/outflows of an individual or household in order to better understand their economic behaviour.

such as debt restructuring, debt counselling and a special rule that prevents the accrual of unpaid interest and other costs to an amount greater than the principal loan amount. This is known as the in duplum rule (Kelly-Louw, 2011). Only once the borrower starts making payments on the capital amount will interest be allowed to accrue again; this offers some protection to the debtor against exploitation by the creditor. The Act also gives the National Consumer Credit Tribunal the authority and jurisdiction to nullify any credit agreement or postpone repayments if it is found that the agreement was reckless. A credit agreement can be declared as reckless if evidence exists or can be provided pertaining to loan amounts granted in favour of the borrower of which he or she was not fully aware or did not comprehend the full terms and conditions (National Credit Regulator, 2009). The onus lies with both lender and borrower to be truthful and transparent during credit negotiations and to prove their case.

The debt counselling process provides consumers, who are over-indebted, with some relief such that repayment terms and amounts are restructured based on affordability and available income. An obligation to repay outstanding debt still exists however, during this period, which takes approximately 60 days to finalise; the customer's appointed debt counsellor will inform the relevant credit bureaus and credit providers during this time of the customer's financial situation and initiate the debt counselling process. The customer's credit profile is flagged to prevent the extension of any further credit and credit providers may not issue any summonses, letters of demand or proceed with legal steps related to debt collection (National Credit Regulator, 2012). Table 2.7 indicates an increase of 124 615 in the amount of applications received for debt counselling for year ended March 2013 /2014 compared to 392 393 for the year ended March 2012/2013. On average, 9 100 consumers apply for debt review every month. Given the social and economic impacts associated with over-indebtedness and the many national markets that have suffered extensively as a result thereof (such as Bolivia and South Africa), protecting customers has become a top priority. Equally important is developing indicators that recognise debt problems before customers become delinquent.

**FIGURE 2.7 NUMBER OF DEBT COUNSELLING APPLICATIONS RECEIVED**

| Financial year | 2012/2013 | 2013/2014 |
|---|---|---|
| consumers under debt review | 392,393 | 517,008 |
| court orders granted | 56,995 | 76,212 |
| matters still on the court roll | 35,195 | 41,973 |

Source: National Credit Regulator Annual Report (2014) as at end of March 2014

In a recent interview with Moneyweb, FNB Consumer Economist John Loos mentioned that, although essential to achieve positive economic growth, consumer credit growth needs to remain fairly pedestrian in a weak income growth environment. This is by far the surest way of reducing household sector vulnerability to any type of economic shocks (Moneyweb, 2014), (SARB Quarterly Bulletin, 2014).

## 2.5 THE DEVELOPED COUNTRIES APPROACH

According to the IMF, in 2014, the ten largest developed economies by nominal GDP were the United States, Japan, Germany, France, the United Kingdom, Italy, Canada, Australia, South Korea and Spain. In these developing countries, the microfinance industry has also expanded rapidly in recent years. Excessive borrowing and risk taking by banks quickly resulted in a bust which caused turmoil with massive financial implications for all economies. As a result, many policymakers were forced to re-evaluate the situation and determine whether or not credit growth could be translated into an economic boom or an early warning of financial turmoil similar to the 2008 credit crunch (International Monetary Fund, 2012).

Since the 1980's consumer credit has witnessed extensive growth in certain parts of Europe; amounts borrowed as a proportion of income differ from country to country. In Bulgaria the percentage of households having unsecured debt is positively correlated with income; this is especially relevant among middle-to-high income earners where a significant portion of the loan is used for funding small enterprises that do not qualify for commercial bank loans due to lack of financial records. According to Abrahams and Zhang (2009), one of the root causes of the financial crisis was incomplete credit assessments in the lending systems and banking products that were unsuited to the specific needs and requirements of borrowers. Many did not qualify for suitable and affordable lending products. According to the European Commission, life changes, such as death, disability and illness have been identified as one of the main triggers of consumer

over-indebtedness and in certain countries, like Germany, a negative credit history not only leads to financial exclusion but prevents consumers from opening bank accounts as well (European Commission, 2008). Microfinance programmes in Europe have to be diverse in order to take account of the different living conditions of people as well as address the social and economic problems of the previously financially disadvantaged communities.

The German Microfinance Institute (Deutsches Mikrofinanz Institut, DMI) was founded on April 7th 2004. It is a registered association with 53 members that provides training, coaching and consultancy services to entrepreneurs, start-ups, the self-employed and micro enterprises. Their work often focuses on disadvantaged groups including the unemployed and migrants (Bredberg & Ek, 2011). The DMI has two distinct objectives. The first is the nationwide spread of micro lending and the second is to research, develop and test micro lending methodologies. Microfinance institutions partner with banks in order to extend finance to borrowers. Once a potential client has been identified, the micro financier will pre-qualify the borrower in terms of an affordability assessment and credit scoring. If results are positive, the application for finance is put forward to the relevant financial institution, which then closes a standard loan contract with the borrower. A similar approach is applied in Spain where social support organisations identify potential beneficiaries after disbursing information pertaining to the use and benefits of small loans among the communities these organisations serve. The potential borrower is also assisted further by the organisation in completing the application, which is then submitted to the micro lender. An affordability assessment is completed and credit rating is evaluated. If positive, a microfinance loan agreement is concluded with the client and terms and conditions are discussed (European Commission, 2008).

Kreditanstalt für Wiederaufbau (KfW) is a bank that offers loans ranging from 15 to 50 000 euros with maturities of up to ten years (Kneiding and Kritikos, 2009). The bank retains part of the interest repayments to cover the administrative costs associated with initiating the loan agreement. As a value added service, the micro financier not only provides support, guidance and advice to the borrower but is responsible for monitoring loan repayments. The latter is of extreme importance as the micro financier carries 20 per cent of the loss in the event of default (Kneiding & Kritikos, 2009).

During the last fifteen years since the early 1980's, even the US and UK had a rapid growth of microcredit programmes (Amadi, 2012). The US is considered a wealthy and highly developed country, yet a relatively large part of the population lives below the poverty line. In 2009, 42.9 million Americans had an income below the poverty level[6] (US Census Bureau, 2011, cited in Bredberg, 2011). Unsecured credit in the USA did not appear in significant amounts until the late 1960s, where after the use of this form of credit intensified, particularly with the issuing of credit cards. In 1958, the Bank of California engaged in a 'mass mailing' campaign by sending 60 000 pre-authorised and unsolicited credit cards to consumers. Through fee harvesting, the banks charged whatever interest rates they liked especially to consumers with a bad credit history. At the end of 2010, the US had accumulated 2.5 trillion US dollars of outstanding debt in the form of credit cards, personal loans and other short-term loans (Finley, 2013). Results of a Nielson survey (2012) also indicated that negative financial behaviour and current levels of debt are significantly associated with the presence of other forms of consumer debt; 63 per cent of respondents who own a credit card, for instance, reported having 2 000 US dollars in debt plus another form of personal loan. According to Lusardi and Tufano (2009), Americans with low debt literacy levels transact in a high cost manner, incur higher fees and comprehend very little of the workings pertaining to compound interest. In a sample of 1 000 American respondents, prior to the 2008 financial crisis, 26.4 per cent indicated that they have or might have difficulty in paying off their debt. One of the key findings of the survey is that the over-indebtedness of microfinance clients is perceived to be by far the largest risk facing the industry (Microfinance Banana Skins, 2014:2).

In 2008, Grameen America was established in Queens, New York. The organisation is not legally connected to Grameen Bank in Bangladesh although it is based on the same model. Grameen America also works with low-income individuals who aim to start their own income-generating activity. The majority of clients are women and many of them are immigrants. Citibank offers personal loans between $500 and $50 000 with fixed rates ranging from 10.49 to 25.49 per cent depending on credit score. The interest rates on a credit card for a person with a bad credit score range between 8 and 20 per cent (Bankrate.com, 2011, cited in Bredberg, 2011). The Card Accountability, Responsibility and Disclosure Act of 2009 and the Dodd-Frank Act of 2010 place

6 The poverty level is measured in terms of households living on $2 per day excluding government benefits according to the US Treasury.

significant obligations on both lenders and borrowers to assess affordability and ability to repay a loan based on verified and documented information. In addition, practices relating to the extension of credit should be fair and transparent such that the credit holder is notified 45 days in advance regarding interest rate increases, how long it will take to repay the capital amount as well as the minimum payment required (Wilson, 2012). The implementation of these policies was necessary to improve individuals' understanding of financial information, raise awareness about risks and consequences of incorrect borrowing decisions and address the irresponsibility that leads to over-indebtedness.

Financial education policies, such as the aforementioned, cannot alone to manage the risks associated with unsecured credit. Regulation of credit reforms deserves just as much importance which, in the case of Australia, lies with the Federal government. The launch of National Licensing Obligations in 2010 saw the banning of unsolicited credit limit increase offers, compelling the provision of one pager fact sheets on home loans and other credit offerings. In addition, high interest rates on credit card debt and the provision of instalment loans only to long-standing customers with a very high credit rating became a top priority (Kohler, 2012), (Reserve Bank of Australia, 2012). Generally in Australia, it is difficult to access credit for less than 3 000 AUD from a mainstream lender and consumers are directed instead to a credit card. As of May 2013, there were more than 15.3m credit card accounts in Australia, with more than 35bn AUD in credit card debt accruing interest at 10 to 20 per cent. For consumers who are not able to access a credit card, or are not interested in a credit card, or who have already used their credit card to its limit, the answer to credit needs is often to apply for a payday loan, which comes with a significantly higher effective interest rate of 400 per cent per annum and higher. While the new reforms do mandate maximum charges, this is still an expensive form of credit (Erikkson et al., 2011).

Many low-income households in Australia rely on short-term credit to manage financial difficulties; as many as four out of ten households with an income of less that AUS 35 000 per annum find it difficult to cope financially in the event of an emergency or unforeseen crisis (Ellison & Forster, 2008: 25-27). Payday loan borrowers often have no savings net or have been refused credit elsewhere due to an adverse listing. Faced with the difficulty of affording essentials and risk of missing bill repayments, these borrowers depend on micro loans to bridge cash flow shortfalls and smooth peaks in expenditure and consumption (Ellison & Forster, 2008: 25-27).

The 20th and 21st centuries saw many changes in the credit market with fewer credit sources becoming available or easily accessible. This is especially true in the British economy where many vulnerable consumers were exposed to short-term credit, whether legal or not, and the household debt to income ratio on both secured and unsecured credit increased by 50 per cent (Disney et al., 2008). Credit is not negatively viewed, but the abolishment of Usury laws removed legal restrictions that capped the interest rates charged by lenders (Aldhoni, 2013). Trends also indicate that older groups of individuals, aged 25 to 34 and 55 to 64 are more reliant on unsecured loans due to the multiple demands of dependents, lifestyle needs, holidays, medical expenses and utility bills. In a survey conducted on a stratified sample comprising 1 600 households by Ipsos MORI, the second largest research organisation in the UK on the levels of unsecured debt, 53 per cent of consumers claimed to have unsecured debt exceeding 25 per cent of their income, while 82 per cent of consumers had a total debt exceeding 50 per cent of their gross income and more than half of these individuals had four or more credit commitments. Only 36 per cent of households considered their financial commitments a 'heavy burden' and an even smaller proportion (13 per cent) had arrears of more than three months (Disney et al., 2008). Payday loans are often considered a most viable option to cover these impending and rising costs.

The Financial Services Authority together with the UK government has joined forces to implement the National Financial Services Capability strategy which foresees financial education solutions targeted at various population groups. The strategy consists of a financial health check and a financial capability innovation fund that runs financial literacy projects to educate consumers on the various aspects of financial products and decision-making. Through the concerted efforts of the organisation, the UK government hopes to limit the negative impact unexpected events can have of the financial stability of households (Bank of England, 2012).

## 2.6 CONCLUSION

The literature review provides a theoretical introduction and overview of the nature, history and origin of unsecured lending. The role of credit in an economy is discussed with specific reference to the different credit markets and types of lenders such as banks, micro lenders and loan sharks. Unsecured lending began as a result of an initiative by Grameen Bank and Mohammed Yunus, who identified an opportunity to provide financing to the poor as a means of alleviating poverty

and providing for their families. This venture later gave rise to the Grameen banking model which saw women in India as the biggest beneficiaries of micro loans through individual and group based lending to encourage entrepreneurship. Many countries adopted this model and modified it according to the demands and requirements of consumers traditionally excluded from the formal financial system.

The application process for a micro loan is fairly easy, quick and no collateral is required. However, in some countries, life insurance is mandatory in the event of death of the borrower so that the lender has some form of recourse in recovering the loan amount. Demand for this type of lending steadily rose to the extent that many consumers found themselves heavily over-indebted, victims of loans sharks charging exorbitant interest rates on loan amounts and often exposed to reckless lending agreements. In South Africa, some relief exists for consumers who find themselves over-exposed financially by applying for debt review. The National Credit Regulator has the power to declare an agreement as reckless if found that no affordability assessment was conducted or if the terms of the agreement do not comply with statutory and regulatory requirements.

Demand for unsecured loans has also increased substantially in both developed and developing countries. Payday loans have become a popular form of micro lending in the United States of America, UK and Australia. Many lower-income consumers, traditionally excluded from the financial system or refused credit by formal lenders due to high risk profile or negative credit listing, rely extensively on this form of financing to bridge the finance gap, smooth consumption or cover emergency expenses. Illegal lenders and loans sharks are usually concentrated among these groups of consumers (Ellison & Forster, 2008).

Micro lending is not negatively viewed; on the contrary, the main objective of this form of financing is to encourage economic freedom and poverty alleviation through entrepreneurship and self-employment. Despite the worldwide concern of consumer over-indebtedness, many consumers, especially women in various countries have benefitted substantially from the provision of micro loans. The onus, however, lies on both credit provider and borrower to ensure that a proper financial assessment is done of the borrower's affordability and financial circumstances before extending any loan. Transparency and clarity in terms of repayment, terms and conditions are of the utmost importance and form the basis of consumer financial education programmes.

# CHAPTER THREE
# RESEARCH METHODOLOGY

## 3.1 INTRODUCTION

This chapter introduces the research strategy and methodological approach implemented to execute the research study. Dhawan (2010) defines research methodology as a systematic way of solving the research problem using scientific research methods. This process consists of a series of steps followed during the investigation of the research problem. These steps include a description of the research design, research methods and data collection procedure followed by a detailed discussion of the data analysis process. In addition, limitations, reliability and validity issues encountered during the study are also addressed.

## 3.2 RESEARCH DESIGN

The research design is the conceptual framework within which the research study is conducted. It articulates the research strategy of the data collection and analysis techniques required to achieve the research objectives and answer the research problems (Dhawan, 2010). The preparation of such a design facilitates the smooth sailing of research operations, thereby making the research results as effective as possible without compromising data reliability and validity. The research design provides a structural outline of the research methodology, data collection method, sampling plan and data analysis technique applied to the research project. An appropriate research design considers all relevant data sources, the data collection technique, nature of the research problem and should be flexible enough to consider many aspects of the phenomenon (Dhawan, 2010). Dhawan (2010) argues that the research design can be divided into the following smaller sub-functions which make up the overall process:

- The sampling design that focuses on selecting the suitable sample size, population or group of subjects to be studied.
- The observational design that deals with any conditions under which observations are made.
- The statistical design that outlines the statistical techniques and methods used to analyse the collected data in order to produce meaningful results.

- The operational design which comprises the techniques used to carry out the aforementioned designs.

Research design is not related to any particular method of collecting data or any particular type of data. Any research design can, in principle, use any type of data collection method and can use either quantitative or qualitative data. Research design refers to the structure of an enquiry: it is a logical matter rather than a logistical one.

### 3.3 RESEARCH APPROACH

The research approach is an objective, formal and systematic process that involves the collection of financial data from secondary sources and projecting the findings to a larger population or group (Dhawan, 2010). The nature and focus of this study is such that large volumes of financial data, in the form of a time series are required. The data is subjected to statistical manipulation in order to determine trends in consumer credit, specifically unsecured lending and projecting the findings to a wider population. A quantitative, descriptive research design is therefore an appropriate methodological approach to execute this research study. This research approach is an objective, formal and systematic process that involves numerical data findings (Dhawan, 2010) sampled from secondary sources.

In her research paper entitled 'Research Methods', Williams (2007) discusses three commonly used research approaches, viz: qualitative, quantitative and a combination of both. Selection of the most appropriate research approach is dependent on how effectively the methodology can achieve the research objectives of the study and answer the research questions. A quantitative approach is used to respond to research questions requiring numerical data while the qualitative approach is more suitable for research questions requiring textural data. (Williams, 2007:65) discusses that if the research study contains a combination of numerical and textural objectives, both methods may be applied during the study

#### 3.3.1 QUANTITATIVE RESEARCH

Quantitative research involves the collection of large, measurable volumes of numeric data that are subjected to statistical manipulation and analysis, using econometric models in order to quantify relationships between variables and project the findings to a larger population (Creswell

2003, cited in Williams, 2007:153). The main objective of this methodology is to determine or validate the existence of relationships between variables for a smaller sample that may be generalised to a bigger population (Williams, 2007). Quantitative research originates with a research objective from which a hypothesis is derived followed by a comprehensive review of literature and, finally, a quantitative data analysis. Creswell (2003:18) explains that quantitative research techniques make use of strategies of inquiry such as surveys, questionnaires and experiments that drive structured data collection on predetermined instruments which yield statistical data to ensure alignment with the statistical data collection methodology. The findings from quantitative research can be predictive, explanatory and confirming.

As an example, Singh and Gashayie (2014:209-211) applied a quantitative methodology to conduct a study on the relationship of financial sustainability and outreach in Ethiopian microfinance institutions. The researchers formulated a hypothesis which stated that there exists no relationship between outreach and financial sustainability of microfinance institutions in Ethiopia. Secondary data was collected for the year 2011 from the Microfinance Information Exchange (MiX) market. This database contains a variety of information on all microfinance institutions from all over the world. Descriptive statistics produced results in favour of the hypothesis; no statistically significant relationship existed between the variables under investigation.

Quantitative research is often also described as deductive research organised around the aim of testing a theory. A review of theoretical literature is conducted with the purpose of summarising previous research in the form of a causal model. This model establishes contingent relationships between theoretical concepts which are then translated into a model of variables that informs a research design. The data analysis is then conducted to evaluate the importance of each variable in the model or to determine whether the most important causal mechanisms are operating to determine outcomes (Kelly, 2011). One of the most significant drawbacks of quantitative methodology is that this technique lacks the high level detail provided by qualitative research techniques.

### 3.3.2 QUALITATIVE RESEARCH

In contrast, qualitative research strategies and designs are meaning-centred and informed by the interpretivist tradition in social theory. In this tradition, the description and explanation of the social

world must refer to subjective meanings where the philosophy emphasises the phenomenological basis of a study and meaning of a phenomenon (Zerai & Rani, 2012). Qualitative research techniques and methods seek to understand phenomena using an inductive form of reasoning and insights on data via discovery. The methodology is flexible, unique, provides a high level of detail and evolves throughout the process. Data is collected via observation, focus group sessions, interviews, case studies and self-administered questionnaires (Tustin, 2005), which are subjected to purposeful description, explanation and interpretation (Williams, 2007:67-69).
Qualitative research is premised on inductive reasoning. New theories are developed from the observational elements that pose questions which the researcher attempts to explain. The strong correlation between the observer and the data is a marked difference from quantitative research, where the researcher is strictly outside of the phenomena being investigated. Qualitative research designs are typically more flexible – that is, they allow greater spontaneity and the participant has the option to respond in their own words instead of a simple 'yes' or 'no' answer. Distinct differences between quantitative and qualitative research are tabled below:

**TABLE 3.1 DIFFERENCES BETWEEN QUANTITATIVE AND QUALITATIVE METHODOLOGY**

| **Criteria** | **Quantitative** | **Qualitative** |
|---|---|---|
| Purpose | To test hypotheses, look at cause & effect, & make predictions. | To understand & interpret social interactions. |
| Group Studied | Larger & randomly selected. | Smaller & not randomly selected. |
| Data Collection | | |

| | | |
|---|---|---|
| | Quantitative data based on precise measurements using structured & validated data-collection instruments. | Qualitative data such as open-ended responses, interviews, participant observations, field notes, & reflections. |
| Methodology | Confirmatory or top-down: the researcher tests the hypothesis and theory with the data. | Exploratory or bottom-up: the researcher generates a new hypothesis and theory from the data collected. |
| Data Analysis | Summary descriptions (averages and variation) of social variables and the degree of confidence in these estimates. | Detailed descriptions of core meanings of a culture.<br>Interpretation of the meaning of action. |
| Strengths | Can generalise research findings when the data are based on random samples of sufficient size. | View of homogeneous exploration. |

| | | |
|---|---|---|
| | Data collection using some quantitative methods is relatively quick (e.g., telephone interviews).<br><br>Provides precise, quantitative, numerical data.<br><br>Data analysis is relatively less time consuming (using statistical software). | Raise more issues through broad and open-ended inquiry.<br><br>Understanding behaviours, beliefs and assumptions. |
| Weaknesses | The researcher might miss out on phenomena occurring because of the focus on theory or hypothesis testing rather than on theory or hypothesis generation (called the *confirmation bias*). | No objectively verifiable result.<br><br>Skilful requirement for interviewers. |

| | | |
|---|---|---|
| | Knowledge produced might be too abstract and general for direct application to specific local situations, contexts and individuals.<br><br>Data collected lacks detail. | Time consuming during interviewing process and intensive category process. |

Sources: Dhawan, (2010), Choy, (2014), Kelly, (2011)

### 3.4 DATA COLLECTION

#### 3.4.1 DATA COLLECTION PLAN

Due to the numeric nature of the study, a secondary data collection method was deemed suitable in order to execute the study. This data collection method allowed for large volumes of unsecured lending statistics, already collected from returns submitted by lending institutions, to be obtained from the website of the National Credit Regulator.

The National Credit Regulator was established as a regulator under the National Credit Act No.34 of 2005 (the Act) and is responsible for the regulation of the South African credit industry. It is tasked with carrying out education, research, policy development, registration of industry participants, investigation of complaints, and ensuring the enforcement of the Act. These initiatives provide insight into consumer demand behaviour (National Credit Regulator, 2012). As borrowing and consumer credit is highly complex and dependent on a number of sometimes seemingly unrelated factors, the National Credit Regulator makes use of qualitative research in conjunction with the face-to-face interviews to explore individual personas regarding consumer credit (National Credit Regulator, 2013). Data and findings are published quarterly in the form of Consumer Credit Market reports in the public domain and used by policy makers and government institutions to formulate credit policies and evaluate trends in demand for consumer credit.

The quarterly data obtained from the National Credit Regulator covered the period 2008 to 2015 for each of the following research categories: unsecured credit granted, number of unsecured applications approved and amount of unsecured credit granted per income category (unsecured lending data tables attached at the end of Chapter 5). Each research category contains one or more research variables under investigation which serve as a proxy for determining demand and trends in unsecured credit. Unsecured credit granted, stated in rand value, serves as a proxy for evaluating fluctuations or trends in total credit granted. Number of unsecured applications approved serves as a proxy for determining consumer demand for unsecured loans. Number of unsecured applications received before approval data, which could have been a better appropriate measure of demand, was not available from the National Credit Regulator. Unsecured credit granted per income category is a proxy for measuring the value of unsecured loans granted based on consumer income. Each of the aforementioned variables is influenced by changes in legislation, policy changes as well as economic events such as interest rate hikes and the 2008 credit crunch.

All data collected was readily available, in a table format and subjected to statistical analysis available in E-views 9.5. Data analysis consisted of determining trends in demand for unsecured credit by first determining if the trend is stationary using the augmented Dickey-Fuller (ADF) test followed by a Zivot-Andrews test to determine the break date. Data should be stationary in order to determine the existence of a unit root. Stationarity is an important property in time series and facilitates analysis (Gujarati & Porter, 2009). The significance of the break date is explained by linking the date to a specific economic event or monetary policy change in South Africa. Each of these tests is explained in detail in the data analysis section below. The break point is subsequently used as a proxy for measuring changes in demand for unsecured credit and descriptive analysis techniques, such as the t-test is used as a proxy for determining the approximate rate of change for each category.

### 3.4.2 DATA LIMITATIONS

The data collected from the National Credit Regulator provides a summary of the total unsecured credit granted in South Africa per quarter; however, it does not include any information regarding loans granted by micro lenders not registered with the National Credit Regulator.

Since 2007, the National Credit Regulator has measured credit extension in great detail and has provided information on various credit types. Data pertaining to unsecured credit before 2007 was not available however; therefore a decision was taken to base the study on the period of seven years from 2008 to 2015. The data is considered valid and reliable; any additional tests related to reliability and validity as well as the primary methods used by the National Credit Regulator to collect the data fall outside the scope of this study.

Data on unsecured credit granted and number of applications approved is available in the public domain for various banking enterprises, but the information contained in company annual reports is subjective and validation cannot always be certified. In light of this, the website of the National Credit Regulator was chosen as the central source for obtaining all data.

No data pertaining to the number of individual applications received prior to loan approval for both mortgage and unsecured credit was available from the National Credit Regulator.

### 3.5 DATA ANALYSIS

Raw data on its own can never yield tangible information unless the data is reworked and processed into significant information. Data analysis therefore consists of a series of statistical tests and manipulation of data in order to reach meaningful conclusions as well as add value and purpose to the data collected (Singh, 2011). This stage represents the first step in analysing the data after collection, editing and collating. Before the actual data analysis begins data is broken up into more manageable trends and variables. These variables and trends are then linked to the objectives of the research study to ensure comprehensiveness of the study, coverage across all research objectives and to provide a summary of the findings in the form of graphs for visual purposes and analysis results (University of the Witwatersrand Scholarly Resources, 2015). An overview of the data preparation, preliminary analysis, hypothesis testing and statistical analysis will follow.

#### 3.5.1 DATA PREPARATION

Data preparation is the process of cleaning, coding (if necessary) and consolidating data into a workable format for use in analysis. This process entails correcting any errors (typically from human and/or machine input), performing quality assurance for completeness and comprehensibility, merging data from

several sources or data formats and summarising data for each variable by way of tables (Datawatch, 2016).

Historical, quantitative data obtained from the National Credit Regulator on unsecured credit was already available in a workable and summarised format for each variable under investigation. The standard unit of measure for all variables is rand values except for the number of applications received and approved. This variable is measured in numbers.

Unsecured credit granted and applications received and approved are all dependent variables. Time and income categories are the independent variables used in this study.

Processing of the data involves performing statistical analysis, hypothesis testing, break point analysis and creating graphs for visual purposes. Descriptive statistics were also applied to illustrate and evaluate differences between variables and determine changes in trends.

### 3.5.2 HYPOTHESIS TESTING

Hypothesis or significance testing is a method for testing a claim or hypothesis about a parameter in a population, using data measured in a sample. Hypotheses measure the behaviour of samples to learn more about the behaviour in populations that are often too large or inaccessible to be studied as is. Statements that describe the relationship between two or more variables related to the research objectives and which can be tested using existing models and theories form the foundation of a hypothesis (Leedy & Ormrod, 2005).

The test process is as follows:

State the null hypothesis and the alternate hypothesis.

Select the appropriate test statistic and level of significance.

State the decision rules.

The decision rules state the conditions under which the null hypothesis will be accepted or rejected. The critical value for the test-statistic is determined by the level of significance (p value). The p value denotes the probability of a test statistic at least as extreme as the one obtained.

Compute the appropriate test statistic using descriptive statistics and make the decision to reject the null hypothesis and accept the alternate hypothesis or vice versa. If the test statistic is in the critical region (denoted by the critical value), reject the null hypothesis.

A significant value greater than 5 per cent at a 95 per cent confidence level is an indication of significant difference. If the p value is less than 5 per cent, the null hypothesis is rejected. However, a large p value means data is consistent with the null hypothesis. This research study used a 95 per cent confidence level which allows a 5 per cent chance of a type I error to occur. Thus, 0.05 was used as a p value. A type I error occurs when the null hypothesis is mistakenly rejected when it's actually true, while a type II error results due to failing to reject the null hypothesis when it's actually false (Triola, 2015:404-405).
The null (Ho) and alternate ($H_1$) hypothesis for each research category have already been formulated in Chapter 1 and have been listed here for easy reference.

$H_{o1}$: There is no significant difference between the means of unsecured credit granted for the periods pre and post the break date.
$H_{a1:}$ There is a significant difference between the means of unsecured credit granted for the period pre and post the break date.

$H_{o2}$: There is no significant difference between the means of unsecured loans granted for the period pre and posts the break date.
$H_{a2:}$ There is a significant difference between the means of unsecured loans granted for the period pre and post the break date.

$H_{o4}$: There is no significant difference between the means of unsecured credit granted for the period pre and posts the break date in terms of the various income categories.
$H_{a4:}$ There is a significant difference between the means of unsecured credit granted for the period pre and post the break date in terms of the various income categories.

For each category, a stationary test is first determined using the following test:

- Augmented Dickey-Fuller Test
- Zivot-Andrews Test

Each of these tests is explained in detail below and break point results are visually presented in graphs and table format in Chapter 4. The mean of the pre- and post-break periods are then

compared using the t-test in order to determine if a significant change occurred between the two periods and if the break point can be attributed to an economic event or domestic policy change. The objective is to find sufficient evidence against the null hypothesis or prove that the relationship is not coincidental.

It is important to note that the hypothesis testing was conducted against a single sample and a parametric test was selected as the appropriate statistical test. All testing and results obtained was done using E-views 9.5.

### 3.5.3 BREAK POINT TESTING

The methods for estimating relationships between variables and the existence of structural breaks in time series data as a result of economic fluctuations have been subjected to various types of economic modelling. Most of the theories revolve around the presence and location of the structural break and the existence of a unit root. In addition, non-stationary time series have no tendency to return to a normal deterministic trend and the variance is dependent on time. Recent approaches to test for the existence of this phenomenon employ various break detection techniques such as the Chow Test, Zivot-Andrews, Augmented Dickey-Fuller test and Least Squares method when uncertainty exists about the presence of a possible break and a unit root (John et al., 2007).

Break points or structural breaks occur in time series data when a sudden change occurs in the relationship between two variables under investigation. The change could be the result of an economic event, policy or governmental policy change or international disasters such as the 2008 credit crunch (John et al., 2007). The presence of a structural break in the time series data indicates the existence of a unit root. Unit root tests evaluate the stationary properties of the series data.

This research study investigates whether structural breaks in unsecured credit coincide with international economic disasters or domestic events. The 2008 credit crunch, introduction of the credit amnesty act, changes to the credit legislation which prevents individuals earning less than R2 000 to qualify for an unsecured loan and reduction of the usury caps (National Credit Regulator, 2009 to 2013).

### 3.6. UNIT ROOT TESTS INCLUDING A STRUCTURAL BREAK

#### 3.6.1 THE AUGMENTED DICKEY-FULLER TEST

For each of the categories being researched, the null and alternative hypothesis is expressed as:

Ho $_{\text{unsecured credit}}$: A unit root exists.

$H_{1\ \text{unsecured credit}}$: A unit root does not exist.

Ho $_{\text{unsecured applications}}$: A unit root exists.

$H_{1\ \text{unsecured applications}}$: A unit root does not exist.

Ho $_{\text{unsecured income categories}}$: A unit root exists.

$H_{1\ \text{unsecured income categories}}$: A unit root does not exist.

Unit root tests determine the stationary properties of time series data. The standard test by Dickey-Fuller uses the following model:

$$\Delta y_t = \beta_o + (\beta_1 - 1) y_{t-1} + y_t + \varepsilon \qquad (1)$$

Where $\Delta y_t = y_t - y_{t+1}$ and $\beta_o$ is the intercept of the model. The time series is considered non-stationary if the coefficient of $y_{t-1}$ is zero (Nillson, 2009).

The augmented version of the Dickey-Fuller test is widely used to test for stationarity of more complicated time series data. The ADF is applied to the following model:

$$\Delta y_t = \beta_o + (\beta_{1+} \beta_2 - 1) y_{t-1} - \beta_2 \Delta y_{t-1} + y_t + \varepsilon \qquad (2)$$

Where $(\beta_{1+} \beta_2 - 1) = 0$ is tested against the null hypothesis and the result is indicative of a unit root. The ADF statistic is expressed as a negative value and the more negative the value the greater the rejection of the hypothesis. The acceptance or rejection of the null hypothesis follows the Vogelsang (1993) asymptotic one-sided p values. If the p value is less than 5 per cent, the null hypothesis is rejected. If the p value is greater than 5 per cent, the null hypothesis is accepted (Raganathan et al., 2010).

Allaro et al. (2010) investigated the existence of endogenously placed structural break dates for imports, exports and GDP in Ethiopia on macroeconomic data between 1974 and 2009. The F-test was applied to determine the existence of a break (Chow, 1960). A conventional ADF test was used to determine trend stationarity. Results from the ADF test indicated stationarity of variable log DGP at first difference while the other variables indicated stationarity at the second difference (Allaro et al., 2010: 394). Results from the Chow test clearly indicated the existence of a structural break at a 10 per cent significance level and the rejection of the null hypothesis. The endogenously determined break corresponds to an economic event where steady growth was observed in the Ethiopian economy.

An assumption of the ADF is the inclusion of dummy variables to account for at least one endogenous or exogenous structural break date which is chosen independently from the data. This assumption was heavily criticised by studies, specifically the Zivot-Andrews (1992) test and Bai-Perron (2003) test.

An additional assumption of the ADF test states that only a few data points may exhibit a structural change from the usual trend due to various reasons involving an economic event or policy change (Ragnathan et al., 2010).

If doubt exists about the stationarity of the data after conducting the ADF test, additional stationarity tests should be conducted. In addition, Perron (1989) suggests the use of a trend intercept test as a model that is less restrictive; this is to ensure test reliability (Ragnathan et al., 2010). The ADF test does not perform well in the presence of a structural break.

According to John et al. (2007), non-stationary time series data suffer permanent effects as a result of random shocks that are indicated by the specified break date. The inclusion of a single, most significant break date when performing a unit root test is done where the Dickey-Fuller test statistic is at a minimum. A number of studies allow the structural break to be endogenous (unknown) in the series. These studies have shown that the inclusion of an unknown (endogenous) break in the series will reduce the bias in the unit root test's reliability (Ragnathan et al., 2010). One such test is known as the Zivot-Andrews (1992) test.

### 3.6.2 ZIVOT-ANDREWS TEST

Perron (1989) argued that the traditional unit root test such as the ADF test was biased towards the non-rejection of the null hypothesis of a unit root and often ends up falsely rejecting the alternate hypothesis. The Zivot-Andrews (1992) test was then developed in which the turning point was the introduction of an endogenously determined break date. The Zivot-Andrews tests determine where the time of the break is estimated rather than assumed as exogenous (Ragnathan et al., 2010). Zivot-Andrews used the following models expressed as model A, B, C:

Model A:

$$\Delta y_t = c + \alpha y_{t-1} + \beta_t + {}_y DU_t + \sum_{j=1}^{k} {}_{dj}\Delta y_{t-1} - \beta_2 \Delta y_{t-j} + \varepsilon_t \quad (3)$$

Model B

$$\Delta y_t = c + \alpha y_{t-1} + \beta_t + {}_\theta DT_t + \sum_{j=1}^{k} {}_{dj}\Delta y_{t-1} - \beta_2 \Delta y_{t-j} + \varepsilon_t \quad (4)$$

Model C

$$\Delta y_t = c + \alpha y_{t-1} + \beta_t + {}_\theta DU_t + {}_y DT_t \sum_{j=1}^{k} {}_{dj}\Delta y_{t-1} - \beta_2 \Delta y_{t-j} + \varepsilon_t \quad (5)$$

where $DU_t$ is an indicator dummy variable for a mean shift occurring at each possible break date, while $DT_t$ is the corresponding trend shift variable. The null hypothesis in all the three models is defined as α=0. This implies that the series contains a unit root that excludes any structural break, while the alternative hypothesis α<0 implies that the series is a trend-stationary process with a one-time break occurring at an unknown point in time (Ling et al., 2013). The Zivot-Andrews test allows for a single break in the intercept and trend of the series and regards every point as a potential break date. A regression is run for every possible break date sequentially on the full sample. The choice of break date is the date which minimises the ADF t-statistic for testing αˆ (=α −1) =1 (Waheed et al., 2006).

Nillson (2009) employs a Zivot-Andrews test in her thesis on structural breaks and unit roots in the Swedish electricity price. The variables under investigation were the nominal and real electricity prices. Using the log of each variable, between the years 1900 to 2006, results of the test indicated that the null hypothesis of the unit root of nominal electricity could not be rejected, despite the existence of a structural break. The chosen break did not coincide with any economic event and is not considered sufficiently significant (Nillson, 2009:22). The same condition was upheld for real electricity which therefore left the reliability of the Zivot-Andrews test as questionable and non-trustworthy, according to Nillson. Nillson does, however, make mention of a very interesting observation produced through application of a Chow test. This test indicated an exogenously determined break date of 1968 while the Zivot-Andrews indicated 1990 as the most appropriate break date which coincided with a Swedish financial crisis. Nillson therefore concluded that more than one break date could be present in the real electricity price data which neither of the two tests could account for.

### 3.7 DESCRIPTIVE ANALYSIS

#### 3.7.1 THE t-test

The t-test is applied to two groups of quantitative data presented in pairs; comparing the means of a before and after result. Pallant (2011) describes a t-test as a test used to compare the mean scores of a sample at two different time intervals due to some significant event. The t-interval statistic for the null hypothesis, assuming normal differences, is:

Ho: $\mu_1=\mu_2$

where $\mu_1$ is the mean score before the break point and $\mu_2$ is the mean score post the break point. The difference in the mean scores is analysed using the one sample t-test:

$$t = \frac{\bar{d}}{s_d / \sqrt{n}} \qquad (7)$$

where $s_d$ is the standard deviation, $n$ is the number of variables and $df$ (degrees of freedom) is n-1 (Elliott, 2006).

The paired t-interval statistic for the alternate hypothesis, assuming normal differences, is:

$H_1$: $\mu_1$-$\mu_2$

$$\bar{d} \pm t_{\alpha} / 2.\overbrace{\sqrt{n}}^{S_d} \quad (8)$$

and *df* (degrees of freedom) is n-1 (Elliott, 2006).

The t-test assumes normality of the differences and normal distribution of mean scores and observed differences represent a random sample from the population.

When using paired data, it is common practice to make use of the fact that the differences between mean scores $\mu_1$-$\mu_2$ = $\mu_d$ (population mean difference). The hypotheses are therefore rewritten as follows:

Ho: $\mu_d = 0$

$H_1$: $\mu_d \neq 0$

Upon completion of the break point testing data was subjected to descriptive analysis via a t-test performed in Microsoft Excel, assuming equal variances. Pallant (2011) describes a paired t-test as a test used to compare the mean scores of a sample at two different time intervals due to some significant event. The cumulative mean score of data pre the break point is compared to the mean of data post the break point in order to evaluate changes in trends for each research category. The variables subjected to a t-test are unsecured credit, unsecured loans, income and time.

### 3.8 RELIABILITY AND VALIDITY

Reliability is a measure of the extent to which a test can produce consistent results. In other words, a reliable measuring instrument is one that gives you the same measurements when you repeatedly measure the same unchanged objects or events. For instance, in order to evaluate the stability of unsecured credit over time, the mean scores of the pre and post break point are tested for correlation.

Pearson's *r* is the index of correlation most often used as a test for reliability. Pearson's correlation coefficient measures the strength of a linear relationship between two variables. If a measuring instrument was considered perfectly reliable, then it would yield a perfect positive (*r* = +1) correlation with the true scores. A negative score indicates a negative or inverse relationship and a zero value indicates no relationship. If an object or event was measured twice, and the true scores did not change, then you would get the same measurement both times. The most straightforward method of estimating reliability is to administer the test twice to the same set of subjects and then correlate the two measurements (that at Time 1 and that at Time 2). If the test is reliable, and the subjects have not changed from Time 1 to Time 2, then the test should yield a high value of *r*. The mean and standard deviation should also not change appreciably from Time 1 to Time 2. On some tests, however, we would expect some increase in the mean due to practice effects (Wuensch, 2012). The model to test for the Pearson correlation coefficient is indicated as:

$$r = \frac{\sum x_i y_i - \frac{\sum x_i \sum y_i}{10}}{\sqrt{(\sum x_i^2 - \frac{(\sum x_i)^2 \sum xi}{10}} \sqrt{(\sum {y_i}^2 - \frac{(\sum y_i)^2}{10}}} \quad (9)$$

where *r* denotes the correlation coefficient and *x* and *y* denote the variables under investigation in terms of a linear relationship.

Validity relates to the ability of the test to measure what it is purported to measure. Phelan and Wren (2005) define the various tests available to measure validity. Face validity ascertains that the measure appears to be assessing the specified variable under investigation. This can easily be done by determining if the research objectives, research questions, data collected, research methodology, data analysis techniques and results of the study are in alignment. The literature review as well as the topic of the study should be related to the reason for the study. This study contains a comprehensive literature review compiled of various academic literature sources as well as a clearly defined set of objectives, research methodology and data analysis pertaining to unsecured credit. All data used was from National Credit Regulator sources. Construct validity ensures that the measure is actually measuring the intended variable and no others.

Using a panel of “experts” familiar with the research variable is a way in which this type of validity can be assessed. Various economists were consulted for their opinions on unsecured credit and break points. Their consolidated views were noted in this chapter as part of break point testing. Formative validity is applied to outcomes assessment when it is used to assess how well a measure is able to provide information to help improve the programme under investigation. Chapter five of this study contains a conclusion of the findings pertaining to unsecured credit, a discussion of the objectives achieved and recommendations for future research initiatives.

### 3.9 CONCLUSION

This chapter deals with the methodology, techniques and data analysis methods used to execute the research study. Differences between quantitative and qualitative research is discussed as well as an overview of the research process. The study dealt with the collection of quantitative data which was obtained from the National Credit Regulator. Data analysis involved subjecting all data to descriptive analyses techniques such as t-tests as well as break point testing using the augmented Dickey-Fuller and Zivot-Andrews tests in order to determine the points in time when a change in demand for unsecured credit took place. Once the pre-and post-break points are determined, the means of these two periods are compared using a paired t-test in order to determine which of the two means is greater. Data limitations are also briefly discussed as well as addressing reliability and validity issues. The next chapter will present the results of all data analysis conducted.

# CHAPTER FOUR
# ANALYSIS OF RESULTS

## 4.1 INTRODUCTION

This chapter provides the empirical results of the research study conducted followed by a discussion of the research findings. All findings are in relation to the research questions, hypotheses and objectives of the study as specified in Chapter 1. Secondary numerical and financial data, obtained from the National Credit Regulator (NCR) for the period 2008 to 2015 was analysed, with a focus on testing the various null and alternate hypotheses which relate to changes in demand for unsecured loans in South Africa. The analysis also revolves around the existence of structural breaks present in the data as a result of a significant economic event or monetary policy change, which resulted in sudden increases or decreases in demand for an unsecured loan.

For each research category under investigation, data was subjected to two break point testing techniques: the Zivot-Andrews (1992) and augmented Dickey-Fuller (ADF) tests using the least squares method with a structural break. The ADF test, being the traditional test for determining stationarity in a dataset test, has been criticised for being biased towards the rejection of the null hypothesis. This is why the Zivot-Andrews test was also conducted, which considers the existence of a single determined break. All tests were done in E-views 9.5 and all results have been tabulated.

The National Credit Regulator reports credit granted in six main income categories. Each of these categories represents a monthly income bracket. For research purposes, only three categories were investigated: R0 to R3 500, R5 500 to R7 500 and greater than R15 000. These selected income categories will be used to indicate the various income groups: low, medium and high. Only the unsecured variable is investigated specifically with the aim of evaluating if a strong positive relationship exists between the amount of unsecured credit granted and level of income. Higher-income earners have a tendency to acquire more unsecured debt as opposed to lower-income earners. Daniels (2001) re-affirms the theory of a positive linear but ambiguous relationship between level of income and indebtedness by noting the existence of an upward trend in debt among South African households earning between R40 000–50 000 and R50 000–

75 000. The results are in contrast to lower-income households, which one would expect to have greater levels of debt since the inception of micro financing.

Subsequent descriptive statistical analysis was performed using a one-tailed t-test, whereby the mean differences between the pre- and post-break point is compared, assuming equal variances. Results obtained from these tests indicate whether or not to accept or reject the null hypothesis. A Pearson product-moment correlation is measured in order to test the correlation between the variables in the population from which the sample was selected in order to test data reliability.

The various categories are unsecured loan data, unsecured credit granted indicated in rand value and unsecured credit granted per income category stipulated in rand value. The findings for each are presented and discussed. The variables tested are the logarithm of each unsecured loan; unsecured credit granted and unsecured income categories.

### 4.2 CATEGORY 1: UNSECURED CREDIT GRANTED BETWEEN 2008 AND 2015

The first hypothesis tested relates to determining whether a level of significance exists between the means of unsecured credit granted pre and post the break point.

$H_{a0}$: There is no significant difference between unsecured credit means pre and post the structural break

$H_{a1}$: There is a significant difference between unsecured credit means pre and post the structural break

#### 4.2.1 EMPERICAL RESULTS

The Augmented Dickey-Fuller Test (ADF) was used to test for a unit root, allowing for a single structural break using the Least Squares method. The variable tested is unsecured credit granted for the period 2008 to 2015. Perron (1992) modified the standard ADF test to include dummy variables to account for a single structural break (known) under both the null and alternate hypothesis. The test consists of three models, which includes a structural break at the intercept level, slope level or a combination of both.

Perron and Vogelsang (1992) suggested that a structural break test should allow for two types of structural breaks known as the Additive Outlier (AO) and the Innovational Outlier (IO). The AO

model assumes changes take place rapidly and a break occurs in the slope, while the IO model accommodates changes taking place gradually. For the purposes of the finding the strongest evidence in favour of rejection of the null hypothesis, the ADF and Zivot-Andrews tests were performed using the IO model with a structural break at the trend and intercept level. The break selection was performed where the t-statistic from the ADF test is at a minimum. Both the ADF and Zivot- Andrews tests were performed under a significance level of 95 per cent with a 5 per cent chance of a type I error occurring.

Results are illustrated in Table 4.1 below.

**TABLE 4.1 UNIT ROOT AND BREAK POINT TEST RESULTS**

| **Variable** | **ADF** | **Zivot-Andrews** | **Decision** |
|---|---|---|---|
| | *In levels* | *In levels* | |
| | *Trend and Intercept* | *Trend and Intercept* | |
| | Ho: Yt ≈ I (1) | Ho: Yt ≈ I (1) | |
| | $H_1$: Yt ≈ I (1) | $H_1$: Yt ≈ I (1) | |
| Unsecured Credit | 3.85 | 3.65 | Unit Root |
| Break Date | 2014Q3 | 2011Q3 | |

The ADF and ZIvot-Andrews tests indicate the presence of a unit root in unsecured credit granted. The null hypothesis of a unit root is therefore accepted.

The ADF test indicated a break date where the t-statistic is at a minimum, which was 2014 Q3 and the Zivot-Andrews test indicated a break date of 2011 Q3.

During the second quarter of 2011 the Consumer Protection Act, 2008 (Act No. 68 of 2008) came into effect on 1 April 2011. This act is primarily aimed at promoting a fair, accessible and sustainable marketplace for consumer products and services, and applies to contracts entered into after 1 April 2011 (SARB, 2011). During quarter 3 of 2011 households remained active in incurring unsecured debt as the banking sector continued to place more emphasis on prospective borrowers' cash flows in the evaluation of loan affordability. Unsecured credit increased from R18.95 billion for June 2011 to R21.21 billion for September 2011 according to the period (2011), representing a quarter-on-quarter increase of 11.92 per cent. The increase in unsecured credit during the third quarter coincided with an increase in consumer price inflation, which accelerated from a low of 3.2 per cent in September 2010 to 5.3 per cent in the third quarter of 2011[7] (Statistics SA, 2011). Growth over twelve months in credit extended to the household sector averaged 7 per cent during the first seven months of 2011 despite the demand for credit being restrained by sluggish confidence and prospective borrowers' fears of becoming overextended. Global economic events that dominated the second and third quarter of 2011 were attributed to the earthquake and tsunami in Japan, which resulted in supply-chain disruptions in the country (SARB, 2011).

The break date indicated by the ADF test coincides with the collapse of a well-known unsecured lending giant. In August 2014 African Bank was placed under curatorship by authorities. This significant event caused changes in the amount of unsecured lending granted to the household sector as both lenders and borrowers alike seemed to become more risk-averse. The slowdown in the unsecured credit category reflected tight lending conditions as lenders attempted to limit credit impairments in light of the increase in the prime lending rate to 9.25 per cent.

### 4.2.2 DESCRIPTIVE STATISTICS RESULTS

The means of the pre and post break points are compared using descriptive statistics (assuming equal variances) by means of the one-tailed t-test. The break dates as determined by Zivot-Andrews and ADF tests were used as the break point. The t-test was performed in Excel 2007. Andren (2008) states that if the null hypothesis is true, the mean of the test function will be less or

7 Inflation target is 6 per cent per annum.

equal to zero.

Group statistics and results of the t-test are illustrated below in tables 4.2 and 4.3. A 0.05 significance level was chosen for the one-tailed test and a 0.025 significance level was chosen for the two-tailed test.

**TABLE 4.2 UNSECURED CREDIT GRANTED (IN RANDS) GROUP STATISTICS BEFORE THE BREAK DATE**

| **Variable** | **ADF** | **Zivot-Andrews** |
|---|---|---|
| | ***Pre-break point*** | ***Pre-break point*** |
| Mean | 16 409 721 | 10 777 128 |
| Median | 17 828 592 | 9 188 601 |
| Minimum | 6 792 703 | 6 792 703 |
| Maximum | 29 072 652 | 18 954 134 |
| SD | 71 915 697 | 41 367 449 |
| Mean Difference | 2 924 490 | 10 954062 |
| N | 26 | 14 |
| r | $0.1583_2$ | |

**TABLE 4.3 UNSECURED CREDIT GRANTED (IN RANDS) GROUP STATISTICS AFTER THE BREAK DATE**

| **Variable** | **ADF** | **Zivot-Andrews** |
|---|---|---|
| | ***Post-break point*** | ***Post-break point*** |
| Mean | 19 334 211 | 21 733 190 |
| Median | 18 702 266 | 21 614 882 |
| Minimum | 17 400 812 | 17 400 812 |
| Maximum | 22 466 737 | 29 072 652 |
| SD | 21 945 842 | 34 172 911 |
| Mean Difference | 2 924 490 | 10 954062 |
| N | 5 | 17 |
| r | 0.15838 | |

The variables pre- and post-break point did not contain an equal number in the sample which prevented the use of a paired t-test. This could potentially influence the outcome of the t-test performed. Results are indicated in Tables 4.4.1 and 4.4.2 below.

8 Correlation was calculated using unsecured credit and mortgage credit values.

Pearson's correlation coefficient yielded a value of 0.1583 which is indicative of no correlation between the variables.

**TABLE 4.4.1 ZIVOT-ANDREWS BREAK DATE TEST**

| Variable | t-test for equality of means | | | | | |
|---|---|---|---|---|---|---|
| | **T statistic** | **df (n-1)** | **Significance (one-tailed)** | | **Significance (two-tailed)** | |
| **Unsecured Credit** | | | T statistic | Probability | T statistic | Probability |
| **Equal variances assumed** | -7.49 | 27 | 1.70 | 0.23 | 2.1 | 0.469 |
| **Equal variances not assumed** | -7.31 | 23 | 1.71 | 0.960 | 2.06 | 0.193 |

**TABLE 4.4.2 AUGMENTED DICKEY-FULLER BREAK DATE TEST**

| Variable | t-test for equality of means | | | | | |
|---|---|---|---|---|---|---|
| | **T statistic** | **df** | **Significance (one-tailed)** | | **Significance (two-tailed)** | |
| **Unsecured Credit** | | | T statistic | Probability | T statistic | Probability |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Equal variances assumed** | **-0.89** | 29 | 1.71 | **0.005** | 2.07 | 0.102 |
| **Equal variances not assumed** | -1.70 | 22 | 1.69 | 0.190 | 2.04 | 0.380 |

The test results for both equal and unequal variances have been included for the sake of comprehensiveness. What is of particular interest is that the more negative the t-statistic, the higher the chances are that the null hypothesis will be rejected. In both instances of equal and non-equal variances the t-statistic is more negative than the critical value, for the one-tailed and two-tailed test, however the probability exceeds the stated level of significance (0.05 and 0.025), leading us to reject the alternate hypothesis and accept the null hypothesis. No significant difference exists between the amount of unsecured credit granted before and after the break date as determined by the Zivot-Andrews test.

However, one instance of a significant difference was detected in the case of the ADF test; assuming equal variances. The one sample *t*-test statistic is -0.89 and the p value from this statistic is 0.005, which is less than 0.05 (one-tailed significance). This value indicates that when the prime lending rate increased together with the collapse of African Bank, in quarter three of 2014, a significant difference existed in the amount of unsecured credit granted. The null hypothesis is therefore rejected and the alternate hypothesis is accepted.

### 4.3 CATEGORY 2: UNSECURED LOANS GRANTED BETWEEN 2008 AND 2015

The second hypothesis tested relates to determining whether a level of significance exists between the means of unsecured credit granted pre and post the break point.

$H_{01}$: There is no significant difference between unsecured loans approved means for the period pre and post the structural break.

$H_{11}$: There is a significant difference between unsecured loans approved means for the period pre and post the structural break.

### 4.3.1 EMPERICAL RESULTS

The ADF test was used to test for a unit root, allowing for a single structural break using the Least Squares method. The variable tested is unsecured credit granted for the period 2008 to 2015. Perron (1992) modified the standard ADF test to include dummy variables to account for a single structural break (known) under both the null and alternate hypothesis. The test consists of three models, which includes a structural break at intercept level, slope level or a combination of both.

**TABLE 4.5 UNIT ROOT AND BREAK POINT TEST RESULTS**

| **Variable** | **ADF** | **Zivot-Andrews** | **Decision** |
|---|---|---|---|
| | *In levels* | *In levels* | |
| | *Trend and Intercept* | *Trend and Intercept* | |
| | Ho: $Yt \approx I(1)$ | Ho: $Yt \approx I(1)$ | |
| | $H_1$: $Yt \approx I(1)$ | $H_1$: $Yt \approx I(1)$ | |
| Unsecured Credit | -4.199 | -3.611887 | Unit Root |
| Break Date | 2015Q1 | 2012Q2 | |

The ADF and ZIvot-Andrews test indicate no unit root present in unsecured credit granted. The null hypothesis of a unit root is therefore rejected.
The ADF test indicated a break date where the t-statistic is at a minimum, which was 2015 Q1, and the Zivot-Andrews test indicated a break date of 2012 Q2.

According to the National Credit Regulator and Statistics SA (2012), concerns were raised early in 2012 regarding the significant amount of unsecured loans approved in 2011 Q4. A total of 1.5

million unsecured credit applications were approved during the last quarter of 2011 in comparison to 1.3 million applications in 2011 Q3. The increased contribution of general loans to overall bank credit and the increased demand by households for this type of credit prompted a change in the composition of bank credit extended to households. Banks gradually started tightening lending criteria and approval ratios; however this resulted in a reduction in the number of loan applications submitted. Instead, banks had a higher rejection ratio in terms of applications received for credit (National Credit Regulator, 2012), (Stats SA, 2012). In value terms, unsecured loans to households amounted to R158 billion by May 2012. The continuation of a growth trend in unsecured loans to households will automatically be constrained by both household income and the amount of outstanding general loans already accessed. This, in turn limits access to new loans since loan affordability is a key parameter considered in the granting of loans.

Changes in the level of interest rates also affect the affordability of both existing and new loans. In light of the economic challenges faced by many consumers, some banks actively promoted the extension of maximum loan repayment terms resulting in household debt to disposable income increasing from 75.6 per cent in the first quarter of 2012 to 76.3 per cent in the second quarter. Owing to this high level of consumers in distress, the government reached an agreement with some banks and retailers to restructure the outstanding debt of consumers with impaired credit records undergoing debt counselling[9]. The testing phase was implemented from the end of June 2012.

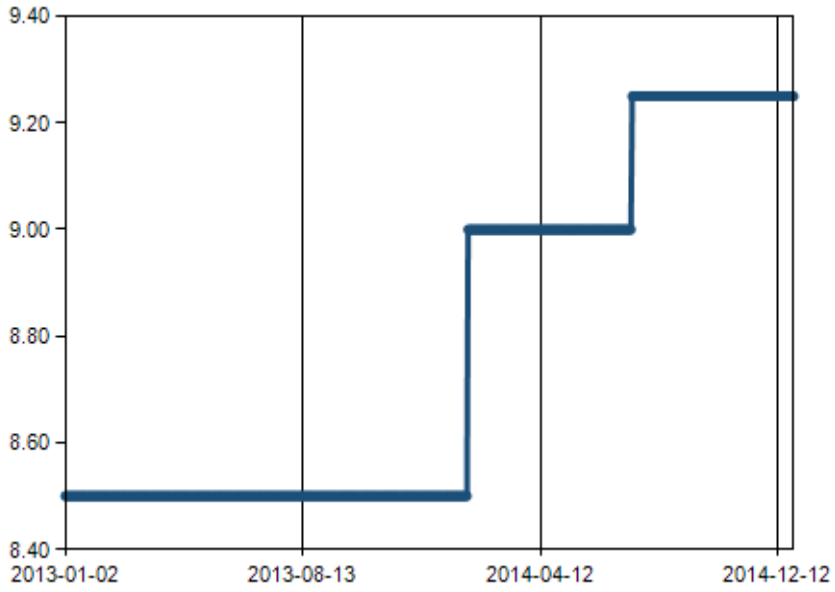
On a global scale, international ratings agencies revised the credit outlook of banks in 2012 quarter 2, and downgraded the subordinate debt and deposit ratings of five large banks due to the challenges posed by low interest rates and high consumer indebtedness.

Following a brief credit contraction in the final quarter of 2014, unsecured credit decreased by 1.3 billion (from R18 702 266 billion to R17 400 812) and the number of applications approved decreased by 90 768. The slowdown in this credit category reflected caution by some households and a debt constraint by others in the wake of weak growth in employment and income. Demand for credit was negatively impacted by interest rate increases in 2014 and relatively stricter credit

9 The aim of this initiative was to lower the interest rate levied on the outstanding debt to the repurchase rate, with a further possibility to reduce the rate to zero in cases where consumers still experienced difficulties in honoring their payment obligations.

conditions contributed to the sluggish take-up of credit by the household sector during the first quarter of 2015. The implementation of the Regulations for Affordability Assessment, as part of the revisions to the National Credit Regulations from March 2015, further served to restrain the uptake of credit and unsecured loans by the household sector during the first quarter of 2015. Figure 4.1 indicates the prime rate movements between 2013 and 2014.

**FIGURE 4.1 PRIME RATE MOVEMENTS BETWEEN 2013 AND 2014**




Source: South African Reserve Bank, 2016

### 4.3.2 DESCRIPTIVE STATISTICS RESULTS

The means of the pre and post break points are compared using descriptive statistics (assuming equal variances) by means of the one-tailed t-test. The break dates as determined by Zivot-Andrews and ADF tests were used as the break point. The t-test was performed in Excel 2007. Andren (2008) states that if the null hypothesis is true, the mean of the test function will be less or equal to zero.

Group statistics and results of the t-test are illustrated below in tables 4.2 and 4.3. A 0.05 significance level was chosen for the one-tailed test and a 0.025 significance level was chosen

for the two-tailed test.

**TABLE 4.6 UNSECURED LOANS (IN NUMBER) GROUP STATISTICS BEFORE THE BREAK DATE**

| **Variable** | **ADF** | **Zivot-Andrews** |
|---|---|---|
| | ***Pre-break point*** | ***Pre-break point*** |
| Mean | 1 060 004 | 942 415 |
| Median | 1 083 867 | 822 714 |
| Minimum | 663 750 | 663 750 |
| Maximum | 1 591 770 | 1 547 993 |
| SD | 2 638 840 | 2 549 010 |
| Mean Difference | 101 641 | 225 012 |
| N | 28 | 17 |
| r | $-0.2459_2$ | |

**TABLE 4.7 UNSECURED LOANS (IN NUMBER) GROUP STATISTICS AFTER THE BREAK DATE**

| **Variable** | **ADF** | **Zivot-Andrews** |
|---|---|---|
| | ***Post-break point*** | ***Post-break point*** |
| Mean | 958 363 | 1 167 227 |
| Median | 950 653 | 1 152 986 |
| Minimum | 849 938 | 849 938 |
| Maximum | 1 074 497 | 1 591 770 |
| SD | 1 124 770 | 2 638 840 |
| Mean Difference | 101 641 | 225 012 |
| N | 3 | 17 |
| r | $-0.2459_2$ | |

The variables pre- and post-break point did not contain an equal number in the sample which prevented the use of a paired t-test. This could potentially influence the outcome of the t-test performed. Results are indicated in Table 4.8.1 and 4.8.2 below.

Pearson's correlation coefficient yielded a value of -0.2459 which is indicative of a very low negative correlation between the variables.

## TABLE 4.8.1 ZIVOT-ANDREWS BREAK DATE TEST RESULTS

| Variable | t-test for equality of means | | | | | |
|---|---|---|---|---|---|---|
| | **T statistic** | **df** | **Significance (one-tailed)** | | **Significance (two-tailed)** | |
| **Unsecured Loans** | | | T statistic | Probability | T statistic | Probability |
| **Equal variances assumed** | -2.77 | 25 | 1.708 | **0.00483** | 2.05 | **0.00966** |
| **Equal variances not assumed** | -2.86 | 25 | 1.701 | **0.00392** | 2.06 | **0.00785** |

## TABLE 4.8.2 AUGMENTED DICKEY-FULLER BREAK DATE TEST RESULTS

| Variable | t-test for equality of means | | | | | |
|---|---|---|---|---|---|---|
| | **T statistic** | **df** | **Significance (one-tailed)** | | **Significance (two-tailed)** | |
| **Unsecured Loans** | | | T statistic | Probability | T statistic | Probability |
| **Equal variances assumed** | 0.652 | 29 | 1.699 | 0.259 | 2.045 | 0.519 |
| **Equal variances not assumed** | 1.241 | 5 | 2.015 | 0.1347 | 2.570 | 0.269 |

The test results for both equal and unequal variances have been included for the sake of comprehensiveness. For the ADF break date, in both instances of equal and non-equal variances, no significance exists between the amount of unsecured loans means before and after the break date. The alternate hypothesis is rejected and the null hypothesis is accepted.

The break date determined by the Zivot-Andrews test yielded a level of significance between the means of unsecured loans before and after the break date. The *t*-test statistic is -2.77 and -2.86 respectively and the p values for each statistic is less than 0.05 (one-tailed significance) and 0.025 (two-tailed significance). The results re-affirm a change occurring in the number of unsecured loans approved as a result of banks tightening lending criteria and increasing their rejection ratios as well as over-indebted households facing tough economic conditions due to the high debt-to-disposable income ratio. The null hypothesis is therefore rejected and the alternate hypothesis is accepted.

### 4.4 CATEGORY 3: UNSECURED CREDIT GRANTED BASED ON INCOME CATEGORY

The third hypothesis tested relates to determining whether a level of significance exists between the means of unsecured credit granted per income category pre and post the break point.

$H_{01}$: There is no significant difference between unsecured credit means per income category for the period pre and post the structural break.

$H_{11}$: There is a significant difference between unsecured credit means per income category for the period pre and post the structural break.

#### 4.4.1 EMPIRICAL RESULTS

The ADF test was used to test for a unit root, allowing for a single structural break using the Least Squares method. The variable tested is unsecured credit granted for the period 2008 to 2015. Perron (1992) modified the standard ADF test to include dummy variables to account for a single structural break (known) under both the null and alternate hypothesis. The test calculates a structural break at trend and intercepts level.

**TABLE 4.9 UNIT ROOT AND BREAK POINT TEST RESULTS**

| **Variable** | **ADF** | **Zivot-Andrews** | **Decision** |
|---|---|---|---|
| | *In levels* | *In levels* | |
| | *Trend and Intercept* | *Trend and Intercept* | |
| | Ho: Yt ≈ I (1) | Ho: Yt ≈ I (1) | |
| | $H_1$: Yt ≈ I (1) | $H_1$: Yt ≈ I (1) | |
| Unsecured Credit (R 0-R3500) | -4.58 | -3.82 | Unit Root |
| Break Date | 2011Q2 | 2011Q3 | |
| Unsecured Credit (R5500-R7500) | -4.67 | -4.11* | Unit Root in the case of ADF only |
| Break Date | 2013Q2 | 2013Q2 | |
| Unsecured Credit (>R15 000) | -4.38 | -6.09* | Unit Root in the case of ADF only. |
| Break Date | 2014Q4 | 2013Q2 | |

*Statistical significance at 1%, 5% and 10% levels respectively. No unit root exists.

Interestingly, for the income category R5 500 to R7 500, the break point determined the ADF and Zivot-Andrews tests of 2013 Q2 are identical, however the null hypothesis of a unit root can only be accepted in the case of the ADF test based on the test result. The Zivot-Andrews test result is in favour of the alternate hypothesis.

The ADF and Zivot-Andrews unit root test results indicate that the null hypothesis can be accepted for the income category R0 to R3 500. The break points determined by the ADF and Zivot-Andrews test each differ by a quarter. This is the second time that the Zivot-Andrews test indicated a break date of 2011 Q3. This date was previously calculated during the unit root test of unsecured credit granted. The second quarter of 2011 coincides with the implementation of the Consumer Protection Act, 2008 (Act No. 68 of 2008). According to the National Credit Regulator (2011), the increase in unsecured credit during quarter 3 of 2011 (from R18.95 billion for June 2011 to R21.21 billion for September 2011) indicate that the majority of unsecured lending customers were in the lower-income group R0 to R3 500. During the period post the credit crisis and 2011, unsecured credit growth coincided with the unemployment rate (23 per cent), which saw a massive increase in lower-income earners taking up unsecured credit.

A structural shift in unsecured credit occurred in the second quarter of 2013 which changed the composition of total household debt over time. Having peaked at the end of 2011, the pace of increase in unsecured credit slowed towards the end of 2012 as most banks started to exercise greater restraint in order to manage their exposure to this market segment. Findings by Schussler (2013Q2) also indicated that unsecured debt was increasing among lower- to middle-income earners in comparison to higher-income earners as a result of collateral requirements and distressed borrowing.

In June 2013 the National Credit Regulator released a public notice of its intention to issue affordability assessment guidelines in terms of the National Credit Act, 2005 (Act No. 34 of 2005). The guidelines would assist credit providers in conducting proper assessments of the consumers' ability to repay in credit applications and to combat consumer over-indebtedness as well as reckless lending. This would include tougher rules related to lending affordability and stricter criteria that need to be adhered to before garnishee orders can be issued on workers' salaries in cases of delinquent payments. In addition, mechanisms would also be provided for dealing with debt to assist consumers that experience financial difficulties (National Credit Regulator, 2013).

For the income category greater than R15 000, the null hypothesis of a unit root is accepted in the case of the ADF test and in favour of the alternate hypothesis for the Zivot-Andrews test. The break dates determined by each test also vary significantly.

The income category greater than R15 000 had the highest unsecured credit spread and reached the R17 billion mark between 2013 and 2014. During the last quarter of 2014, unsecured credit granted in the greater than R15 000 income category started to reduce, stabilized at around R10 billion and then reduced significantly (National Credit Regulator, 2014). This break date of 2014Q4, in this income category, comes just after the placing of African Bank under curatorship in the previous quarter, which saw structural changes taking place in unsecured credit granted. Concurrently to this event, the prime lending rate also increased to 9.25 per cent on the 17th of July 2014 (SARB, 2014). The slowdown in this credit income category reflects relatively tight lending conditions as lenders attempt to limit credit impairments and improve their balance-sheet risk profiles. Furthermore, household demand for credit remains constrained by weak income growth, a cost squeeze, high overall indebtedness and tenuous employment prospects.

### 4.4.2 DESCRIPTIVE STATISTICS RESULTS

The means of the pre and post break points are compared using descriptive statistics (assuming equal variances) by means of the one-tailed t-test. The break dates as determined by Zivot-Andrews and Augmented Dickey-Fuller were used as the break point for each income category. The t-test was performed in Excel 2007. Andren (2008) states that if the null hypothesis is true, the mean of the test function will be less or equal to zero.

Group statistics before and after the break dates and results of the t-test are illustrated below. A 0.05 significance level was chosen for the one-tailed test and a 0.025 significance level was chosen for the two- tailed test. The numbers of variables before and after the break date were not equal.

**TABLE 4.10 GROUP STATISTICS FOR INCOME CATEGORY R0 to R3 500 BEFORE THE BREAK DATE**

| **Variable** | **ADF** | **Zivot-Andrews** |
|---|---|---|
| | ***Pre-break point*** | ***Pre-break point*** |
| Mean | 2 083 057 | 2 087 252 |
| Median | 2 017 094 | 2 079 436 |
| Minimum | 1 256 097 | 1 256 097 |
| Maximum | 2 664 119 | 2 664 119 |
| SD | 465 156.9 | 447 183.7 |
| Mean Difference | 644 032 | 714 153 |
| N | 13 | 14 |
| r | $-0.104_2$ | |

**TABLE 4.11 GROUP STATISTICS FOR INCOME CATEGORY R0 to R3 500 AFTER THE BREAK DATE**

| **Variable** | **ADF** | **Zivot-Andrews** |
|---|---|---|
| | ***Post-break point*** | ***Post-break point*** |
| Mean | 1 439 025 | 1 373 098 |
| Median | 1 237 346 | 1 139 585 |
| Minimum | 102 975 | 102 975 |
| Maximum | 2 947 568 | 2 947 568 |
| SD | 997 346.3 | 991 059.6 |
| Mean Difference | 644 032 | 714 153 |
| N | 17 | 16 |
| r | $-0.104_2$ | |

**TABLE 4.12.1 ZIVOT-ANDREWS BREAK DATE TEST RESULTS**

| **Variable** | **t-test for equality of means (Income category R0 to R3 500)** | | | |
|---|---|---|---|---|
| | **T statistic** | **df** | **Significance (one-tailed)** | **Significance (two-tailed)** |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Unsecured Credit** | | | T statistic | Probability | T statistic | Probability |
| **Equal variances assumed** | 1.81 | 28 | 1.70 | **0.04** | 2.05 | 0.08 |
| **Equal variances not assumed** | 2.06 | 21 | 1.72 | **0.03** | 2.08 | 0.05 |

**TABLE 4.12.2 AUGMENTED DICKEY-FULLER BREAK DATE TEST RESULTS**

| **Variable** | **t-test for equality of means (Income category R0 to R3 500)** | | | | | |
|---|---|---|---|---|---|---|
| | **T statistic** | **df** | **Significance (one-tailed)** | | **Significance (two-tailed)** | |
| **Unsecured Credit** | | | T statistic | Probability | T statistic | Probability |
| **Equal variances assumed** | 2.14 | 28 | 1.70 | **0.02** | 2.04 | 0.04 |
| **Equal variances not assumed** | 2.34 | 24 | 1.71 | **0.01** | 2.06 | 0.02 |

**TABLE 4.13 GROUP STATISTICS FOR INCOME CATEGORY R5 500 to R7 500 BEFORE THE BREAK DATE**

| **Variable** | **ADF** | **Zivot-Andrews** |
|---|---|---|
| | ***Pre-break point*** | ***Pre-break point*** |
| Mean | 1 683 687 | 1 683 687 |
| Median | 1 350 875 | 1 350 875 |
| Minimum | 725 733 | 725 733 |
| Maximum | 3 224 732 | 3 224 732 |
| SD | 869 233.4 | 869 233.4 |
| Mean Difference | 583 634 | 583 634 |
| N | 21 | 21 |
| r | $-0.104_2$ | |

**TABLE 4.14 GROUP STATISTICS FOR INCOME CATEGORY R5 500 to R7 500 BEFORE THE BREAK DATE**

| **Variable** | **ADF** | **Zivot-Andrews** |
|---|---|---|
| | ***Post-break point*** | ***Post-break point*** |
| Mean | 1 100 053 | 1 100 053 |

| | | |
|---|---|---|
| Median | 1 383 095 | 1 383 095 |
| Minimum | 90 055 | 90 055 |
| Maximum | 1 862 095 | 1 862 095 |
| SD | 629 527.6 | 629 527.6 |
| Mean Difference | 583 634 | 583 634 |
| N | 9 | 9 |
| r | $-0.104_2$ | |

**TABLE 4.15 t-test RESULTS**

| Variable | t-test for equality of means for income category R5 500 to R7 500 | | | | | |
|---|---|---|---|---|---|---|
| | **T statistic** | **df** | **Significance (one-tailed)** | | **Significance (two-tailed)** | |
| **Unsecured Credit** | | | T statistic | Probability | T statistic | Probability |
| **Equal variances assumed** | 2.48 | 28 | 1.70 | **0.01** | 2.09 | 0.02 |
| **Equal variances not assumed** | 2.60 | 21 | 1.72 | **0.01** | 2.08 | 0.02 |

**TABLE 4.16 GROUP STATISTICS FOR INCOME CATEGORY GREATER THAN R15 000 BEFORE THE BREAK DATE**

| **Variable** | **ADF** | **Zivot-Andrews** |
|---|---|---|
| | ***Pre-break point*** | ***Pre-break point*** |
| Mean | 6 514 471 | 4 933 383 |
| Median | 6 657 911 | 3 698 769 |
| Minimum | 514 277 | 514 277 |
| Maximum | 17 357 867 | 11 981 994 |
| SD | 4 808 588 | 3 768 095 |
| Mean Difference | 6 160 518 | 2 325 668 |
| N | 27 | 21 |
| r | $-0.104_2$ | |

**TABLE 4.17 GROUP STATISTICS FOR INCOME CATEGORY GREATER THAN R15 000 AFTER THE BREAK DATE**

| **Variable** | **ADF** | **Zivot-Andrews** |
|---|---|---|
| | ***Post-break point*** | ***Pre-break point*** |
| Mean | 353 953 | 7 259 051 |

| | | |
|---|---|---|
| Median | 370 804 | 9 316 377 |
| Minimum | 320 251 | 320 251 |
| Maximum | 419 303 | 17 089 995 |
| SD | 56 604 | 5 744 373 |
| Mean Difference | 6 160 518 | 2 325 668 |
| N | 27 | 21 |
| r | $-0.104_2$ | |

**TABLE 4.18.1 ZIVOT-ANDREWS BREAK DATE TEST RESULTS**

| Variable | t-test for equality of means for income category greater than R15 000 | | | | | |
|---|---|---|---|---|---|---|
| | **T statistic** | **df** | **Significance (one-tailed)** | | **Significance (two-tailed)** | |
| **Unsecured Credit** | | | T statistic | Probability | T statistic | Probability |
| **Equal variances assumed** | -1.32 | 28 | 1.70 | 0.10 | 2.05 | 0.20 |
| **Equal variances not assumed** | -1.12 | 11 | 1.80 | 0.14 | 2.20 | 0.29 |

**TABLE 4.18.2 AUGMENTED DICKEY-FULLER BREAK DATE TEST RESULTS**

| Variable | t-test for equality of means for income category greater than R15 000 | | | | | |
|---|---|---|---|---|---|---|
| | **T statistic** | **df** | **Significance (one-tailed)** | | **Significance (two-tailed)** | |
| **Unsecured Credit** | | | T statistic | Probability | T statistic | Probability |
| **Equal variances assumed** | 2.18 | 28 | 1.70 | **0.018** | 2.04 | 0.03 |
| **Equal variances not assumed** | 6.65 | 26 | 1.71 | 2.33 | 2.06 | 4.66 |

The results from the t-tests conducted for the income category R0 to R3 500 indicate a statistical significance for both the Zivot-Andrews and ADF break dates. In all four instances (equal and unequal variances, one-tailed tests), the level of significance (p value) associated with the t-statistic determined is less than the stated significance of 0.05. Therefore, a statistical significance exists between the pre- and post-break point means. The alternative hypothesis is accepted and the null hypothesis of a statistical significance between the pre- and post-break point means can be rejected. This comes as no surprise considering the break dates determined by the ADF and Zivot-Andrews test only differ by a quarter.

In the case of the income category R5 500 to R7 500, the break dates are exactly the same for ADF and Zivot-Andrews, therefore only one t-test result was calculated. Assuming both equal and unequal variances, the one-tailed t-test produced a p value which is less than 0.05. The null hypothesis can be rejected and the alternate hypothesis can be accepted. A statistically significant difference exists in the mean values before and after the break date.

For the income category greater than R15 000, only one instance of significant difference could be found in the case of the ADF break date of unequal variances. The p value of 0.018 (one-tailed test) is less than 0.05, which indicates the acceptance of the alternative hypothesis and rejection of the null hypothesis. In all other instances the null hypothesis can be accepted.
Correlation results indicate a negative value which is indicative of a very low yet inverse relationship between variables.

**4.5 SUMMARY**

This chapter presents the econometric test results of the hypothesis stated in Chapter 1 as well as the graphical representations of the various break point tests conducted. For each research category, a unit root test allowing for a single break was performed with the purpose of the finding the strongest evidence in favour of rejection of the null hypothesis, where the t-statistic from the ADF test is at a minimum. The ADF and Zivot- Andrews test results account for a single structural break at the trend and intercept level.
The breaks were then analysed in terms of significant economic or domestic events that took place in the country and abroad or a possible monetary policy change. Such events include the collapse of an unsecured lending giant, a natural disaster in Japan and significant interest rate movements brought about in South Africa as a result of monetary policy changes. Descriptive analysis was performed, based on the determined break dates. Finally all the breaks were tabled and the break dates were used to conduct a t-test whereby the means of the pre- and post-break mean variables were compared to determine a statistically significant difference. The results of these individual tests for each category were also tabled and discussed.

In the category of unsecured credit granted, the break dates determined coincided with the collapse of African Bank and an earthquake in Japan. These events caused a structural shift in the demand and supply factors associated with unsecured lending. Banks and other financial institutions increased their loan rejection ratios in response to the changing economic climate. The number of consumers applying for unsecured credit did not reduce however, affordability of loan repayments received much more consideration resulting in more declined applications.
Only one instance of a significant difference was detected in the case of the ADF test; assuming equal variances. The one sample t-test statistic is -0.89 and the p value from this statistic is

0.005, which is less than 0.05 (one-tailed significance).

For the category unsecured loans approved, the break dates were indicative of high levels of distressed borrowing among consumers, the implementation of a debt counselling initiative as well as the downgrading of five large banks by international rating agencies.

Demand for credit was negatively impacted by interest rate increases in 2014 and relatively stricter credit conditions contributed to the sluggish take-up of credit by the household sector during the first quarter of 2015. The implementation of the Regulations for Affordability Assessment, as part of the revisions to the National Credit Regulations from March 2015, further served to restrain the uptake of credit and unsecured loans by the household sector during the first quarter. A statistical significance in the unsecured loans approved means could only be found in the case of the Zivot-Andrews break date (2012 Q2).

Some of the break dates calculated by the ADF and Zivot-Andrews tests in the case of unsecured credit income categories were either similar to the dates calculated in the previous two categories or differed by a quarter. In one instance, the ADF and Zivot-Andrews tests produced the same break date of 2013 Q2. The income category R0 to R3 500 and R5 500 to R7 500 displayed significant differences between mean values for both the ADF and Zivot-Andrews break dates. It was only in the income category greater than R15 000 that one instance of statistical mean difference could be found for the ADF break date.

### 4.6 CONCLUSION

Results of the hypotheses stated in Chapter 1 and methodology discussed in Chapter 3 were discussed in this chapter. The main focus of Chapter 4 was to determine whether a significant event influenced trends in demand for unsecured credit and determining a date to which the event could be linked. Further analysis indicated significant differences between mean values before and after the established break date in order to support or reject the hypotheses.

# CHAPTER FIVE
# CONCLUSIONS AND RECOMMENDATIONS

## 5.1 INTRODUCTION

This chapter concludes the research study. In the previous chapters, the research plan and objectives were covered followed by a detailed review of the corresponding literature. The research methodology and design were explained and finally the results of the data collected were presented and discussed. The purpose of this chapter is to evaluate if the research objectives stipulated in Chapter 1 were met, the research questions have been answered and the extent to which the study has achieved its purpose of exposing trends in demand for unsecured credit. Suggestions and recommendations for addressing the research problem and future research initiatives are also discussed in this chapter.

The research study focused on trends in consumer credit with specific reference to unsecured lending. Demand for unsecured credit was evaluated in terms of the number of unsecured loans approved and rand value of unsecured credit granted over a period of eight years between 2008 and 2015. Other variables such as the unsecured credit granted per income category were also taken into account in determining the degree to which unsecured credit impacts consumer debt levels.

The findings produced in Chapter four provide insight into the unsecured lending market not only from a trends perspective but also sheds light on the economic and domestic events that triggered break points or sudden changes in demand for this type of credit (National Credit Regulator, 2012). This is especially significant in the compiling of consumer financial programmes and initiatives aimed at educating borrowers about the importance of choosing the most appropriate financial products best suited to their need or requirements.

## 5.2 SUMMARY

Chapter 1 introduces the research topic followed by the research objectives, motivation and scope of the study, research questions and stakeholders affected by the research. The methodology and plan of executing the study were briefly mentioned followed by a description of the data analysis techniques and presentation of the findings. The chapter concluded with a breakdown of what each of the other chapters will entail. Concepts such as over-indebtedness, unsecured lending, mandatory life insurance, microfinance and microcredit were introduced here for the first time during the execution of this study.

Chapter 2 provided a theoretical review of the literature related to the research topic. The nature and origin of unsecured credit was discussed and the role of credit as a financial instrument was explained. Microfinance was first introduced by Grameen Bank among the poorer communities in India as a poverty alleviation tool. By providing access to capital, many individuals were afforded the opportunity to start businesses as means of providing for themselves and families (Grameen Bank, 2010). The concept worked so well in reducing India's poverty rate that other developing and emerging countries soon adopted the idea but modified it to suit their objectives. Unsecured credit has contributed significantly, in many countries, towards improving financial inclusion, financial well-being of poverty stricken economies and entrepreneurship. Unfortunately, due to the nature of this type of lending, including easy access, no paperwork and no collateral, many loan sharks and other financial institutions have identified this as an opportunity to increase profit margins. By charging exorbitant interest rates on loan amounts granted, mandatory life insurance as a condition of the loan and extending loan terms, many borrowers who have been turned away from traditional and secured financing have become victims of a predatory lending system that has left many over-indebted and unable to make their financial repayments. This chapter also covers the various initiatives, studies and projects undertaken by the National Credit Regulator (NCR) in an attempt to address the increasing demand for unsecured credit (National Credit Regulator, 2009).

Chapter 3 is dedicated to the methodology and research plan that was used to execute the study. The nature of the study is quantitative and data was collected randomly from secondary sources available from the National Credit Regulator. Microsoft Excel and E-views 9.50 were used to store

the data collected and perform descriptive data analysis and unit root tests allowing for structural breaks. Data collection was done in accordance with the research objectives. The study covered the period between 2008 and 2015.

Chapter 4 presented the results of the study and data collected in Chapter 3. Findings were discussed and data illustrated in the form of tables. Structural break dates and t-test results were included in the results table. The variables under investigation were unsecured credit granted, unsecured credit granted per income category and unsecured loans approved.

Chapter 5 provides a holistic overview of the entire study. Results of findings, in accordance with the objectives, are discussed and recommendations are put forward towards future research initiatives and consumer education programmes in order to address consumer over-indebtedness.

## 5.3 CONCLUSIONS ON EACH RESEARCH OBJECTIVE

The primary objective of the study was to analyse trends in demand for unsecured credit by first investigating whether or not the data series has a unit root. Once a unit root was established, a structural break point, where changes in consumer demand occurred, is determined. The significance of this break date is examined in light of a possible economic event or monetary policy change which could have contributed to the existence of the structural break. The effect of the structural break is then analysed further to determine the impact on level of consumer demand for unsecured credit before and after the stipulated break date.
The objectives below are derived from the primary purpose of the study.

### OBJECTIVE ONE: INVESTIGATE AND ANALYSE TRENDS IN DEMAND FOR UNSECURED LOANS FOR THE PERIOD 2008 TO 2015

The achievement of this objective was based on the number of unsecured applications approved which served as a proxy for determining consumer demand for unsecured loans. The number of unsecured applications received before approval data would have been a better measure of demand but data was not available from the National Credit Regulator. In addition, the data

collected from the National Credit Regulator does not include any information regarding loans granted by micro lenders not registered with the National Credit Regulator.

Unsecured credit granted and loans approved displayed strong growth in the third and fourth quarters of 2011 as well as 2012 Q2. Approximately 1.5 million unsecured credit applications were approved during the last quarter of 2011 in comparison to 1.3 million applications in 2011 Q3. In value terms, unsecured loans to households amounted to R158 billion. Post the break date of 2012 Q2, as calculated by the Zivot-Andrews test in the previous chapter, 2.2 million additional applications were approved. This increase in unsecured credit granted coincided with initiatives by banks to actively promote the product, extension of loan terms as and when customers required additional credit, and low interest rates. As a result unsecured loans contributed 57 per cent to the overall amount of outstanding loans to households.

Concerns were soon raised by the National Credit Regulator, who issued public statements and notices warning consumers about the dangers of over-indebtedness and proper financial management. The finance minister also met with banks to discuss the implementation of new affordability criteria and stricter approval ratios; however this did result in a reduction in the number of loan applications submitted. Instead, banks had a higher rejection ratio in terms of applications received for credit (National Credit Regulator, 2012), (Stats SA, 2012).

The growth trend in unsecured loans to households became constrained after the collapse of African Bank in 2014 Q3, prime-lending rate increases as well as the implementation of regulations pertaining to the conducting of affordability assessments for credit by the National Credit Regulator during the first quarter of 2015.

These monetary policy and economic changes led to a change in the composition of the unsecured lending market to the extent that household demand for unsecured credit may have remained unchanged, however in light of the findings in Chapter 4, at least 100 000 less applications were approved.

Faced with economic challenges pertaining to high unemployment rates, increased consumer inflation and increasing living expenses, many consumers approached illegal money lenders to apply for loans and credit.

**OBJECTIVE TWO: DETERMINE STRUCTURAL BREAK POINTS FOR UNSECURED CREDIT GRANTED AND LINK THE DATES TO SIGNIFICANT ECONOMIC EVENTS OR LEGISLATIVE POLICY CHANGES THAT OCCURRED IN SOUTH AFRICA.**

According to Ling et al. (2013), traditional empirical studies do not consider the implications of structural breaks, arising from economic events, in time series data. If the unit root tests do not account for the existence of possible breaks, this could lead to the incorrect rejection of the null hypothesis and possible bias. The South African financial sector has undergone a series of important regulatory and economic changes since the early 1990s such as the Exemption to the Usury Act, which saw the caps on unsecured lending rates being reduced, the 2008 financial credit crisis, unsecured credit reaching an all-time high in 2012, the tightening of lending criteria commencing in the last quarter of 2012, the collapse of African Bank and the introduction of the National Credit Amendment Act (National Credit Regulator, 2014). In light of these events, unsecured lending time series data may initially be trend stationary but react differently due to the number of financial and economic events occurring over the period of investigation.

For each research category, two unit root tests were performed: the Zivot-Andrews test and the Augmented Dickey-Fuller (ADF) test. Each of these tests produced a unique break date which was explained in terms of an economic event or policy change that influenced demand for unsecured credit. Each of the break dates are illustrated below in table format and some of the dates are recurring.

**TABLE 5.1 STRUCTURAL BREAK DATES FOR UNSECURED CREDIT AS DETERMINED BY THE ZIVOT-ANDREWS AND ADF TEST**

| ***Research Category*** | ***Zivot-Andrews break date*** | ***ADF break date*** |
|---|---|---|
| *Unsecured Loans approved* | 2012 Q2 | 2015 Q1 |
| *Unsecured Credit granted* | 2011 Q3 | 2014 Q3 |

| | | |
|---|---|---|
| *Income category R0–R3 500* | 2011 Q3 | 2011 Q2 |
| *Income category R5 500–R7 500* | 2013 Q2 | 2013 Q2 |
| *Greater than R15 000* | 2013 Q2 | 2014 Q4 |

The second and third quarters of 2011 were linked to the enactment of the Consumer Protection Act, 2008 (Act No. 68 of 2008) which regulated all financial transactions after this date. The banking sector also introduced new affordability criteria which focused primarily on borrowers' cash flows. This did not however deter households in their demand for unsecured credit, which increased from R18.95 billion for June 2011 to R21.21 billion for September 2011 according to the National Credit Regulator (2011). Consumer price inflation also increased from 3.2 per cent in September 2010 to 5.3 per cent in the third quarter of 2011 (Statistics SA, 2011). Most of the unsecured lending granted during this period was to the lower-income customer group as a result of the high unemployment levels. On a global events level, Japan suffered an earthquake and tsunami during this time which caused supply-chain disruptions.

In 2012, Q2 demand for unsecured credit by households increased to R158 billion. This came about as a result of extensive marketing of the product by banks, low interest rate environment, easier lending requirements and the extension of loan terms by niche banks. By end of May, 57 per cent of general loans consisted of unsecured credit granted to households. Many consumers found themselves over-indebted and unable to cope with repayments. It was then, in June 2012 that the test phases of the debt-counselling programme were initiated by government with the support of local banks.

The 2013 Q2 break date coincides with a structural shift in unsecured credit which changed the composition of total household debt over time. Unsecured credit started showing signs of a slowdown towards the end of 2012 as most banks started to exercise restraint in managing exposure to this market segment. During this time, the National Credit Regulator released new

affordability assessment guidelines to assist credit providers in conducting proper credit assessments to avoid instances of reckless lending.

In August 2014 African Bank was placed under curatorship by authorities. This significant event caused changes in the amount of unsecured lending granted to the household sector as both lenders and borrowers alike seemed to become more risk-averse. The slowdown in the unsecured credit category reflected tight lending conditions in the fourth quarter as lenders attempted to limit credit impairments due to the increase in the prime lending rate of 9.25 per cent. In addition, unsecured credit granted in the greater than R15 000 income category started to reduce, stabilised at around R10 billion and then reduced significantly. The implementation of the Regulations for Affordability Assessment, as part of the revisions to the National Credit Regulations from March 2015, further served to restrain the uptake of credit and unsecured loans by the household sector during the first quarter of 2015.

**OBJECTIVE THREE: EVALUATE THE IMPACT OF A STRUCTURAL BREAK ON DEMAND FOR UNSECURED CREDIT BY COMPARING DIFFERENCES IN LOAN VALUES BEFORE AND AFTER THE POST BREAK DATE.**

For the category unsecured credit granted between 2008 and 2015, there exists a statistically significant difference between the pre- and post-break point means. Descriptive results indicate that despite the economic events that took place in 2011 and 2014, on average, more unsecured credit (in rand value terms) was granted after the break date as opposed to the amount of unsecured credit granted before the break date.

For the category unsecured loans approved between 2008 and 2015, a statistically significant difference exists between the pre- and post-break point means only in the case of the 2012 Q2 break date. Banks started tightening lending criteria and increasing their rejection ratios, however households remained active in their demand for unsecured credit. Significantly more unsecured loans (224 812) were approved and granted after the break date. This however does not include the loans granted by illegal and unregistered micro lenders.

For the category relating to unsecured credit granted per income category, a statistical significant

difference exists for the income categories R0 to R3 500 (both break dates), R5 500 to R7 500 (break dates are similar) and greater than R15 000 (one instance of the 2014 Q3 break date). Unsecured credit granted to the lower- and middle-income groups decreased substantially in 2011 Q2 and Q3 as well as 2013 Q2. Due to banks placing more emphasis on cash flows in terms of loan affordability, tightening lending criteria and the inception of a debt counselling initiative for over-indebted customers, many lower-income groups were granted less credit. Those customers that already found themselves under debt counselling or 120 days or more in arrears would no longer be granted any new credit until they had been fully rehabilitated and all outstanding debt settled.

Credit seeking customers who earned R15 000 and more qualified for higher unsecured loan amounts after the introduction of new affordability criteria however; the collapse and placing under curatorship of African Bank saw significant movements in the amount of unsecured credit granted to higher-income earners. After 2014 Q3, on average of only R353 953 worth of unsecured credit was granted to this income group from a high of R6 514 471 before the structural break date.

### 5.4 RECOMMENDATIONS

The nature of a debt relationship rather than the amount of the loan determines whether or not the debt is a burden or a form of wealth creation. If an unsecured personal loan was taken up to purchase an income generating asset or engage entrepreneurial activities, this could be considered a means of creating wealth (Schicks, 2013), (World Bank, 2013). Over-indebtedness occurs as a result of a consumer who got into a debt situation due to an unexpected situation, consumption expenditure or emergency. As soon as the original expectations of having the loan no longer correspond with the outcome, the borrower has to make sacrifices to meet the loan obligations.

The following recommendations should be considered when extending unsecured credit to consumers:

- Policymakers and financial institutions should empower and influence consumer behaviour through financial education. Well-designed financial education programmes, training and workshops should be formulated to reach all population groups and

encourage effective participation in mainstream financial systems. The content of the programme should address different types of financial products available in the market followed by a discussion of the features and benefits of each, and should advocate the importance of using credit responsibly by focusing on both the positive aspects of credit and negative consequences as a result of choosing the wrong credit product and becoming over-indebted. These should be held regularly around the country. Lack of awareness of financial products and poor financial knowledge are barriers to good financial decision-making.

- Customer protection initiatives should encourage fair treatment, clearly understood loan terms and conditions and financial inclusion. Policy makers should constantly revise monetary policies and provide stricter guidelines and rules in terms of credit assessments when extending unsecured credit. The effects of such changes as well as the impact of changing economic conditions on consumer demand for credit should be closely monitored.
- Treatment of customers should be enforced among properly licensed, accredited and reputable financial institutions. Interest rate ceilings should be implemented and upheld to protect customers from usurious and unethical lending practices. All organisations and loan providers failing to comply with regulations during inspections by credit regulators and unregistered money lenders and loan sharks should be fined and barred from providing a financial service to consumers.
- Financial prudence, truthfulness and honesty are responsibilities for both the borrower and credit provider. Effective and responsible lending can only be achieved if both parties to a loan agreement supply truthful, concise and detailed information during the credit assessment stage. This aids in providing the most suitable financial product best suited to the needs and financial situation of the customer. In Belgium, before any financial institution may extend unsecured credit to a customer, the law requires lenders to consult the Central Individual Credit Register (TransUnion in South Africa) managed by the Belgium National Bank to collect information on the financial situation and current credit commitments in order to assess the ability to make repayments (World Bank, 2013). The lender also needs to ensure that all documentation is provided in a language and format that is transparent and the borrower can easily understand, and discloses the full cost of

the loan in order to compare with offers of other lenders. This practice will help in reducing the amount of reckless lending cases. South Africans are entitled to one free credit report issued by TransUnion.

- Debt relief programmes should not only be focused on getting the customer out of debt but on debt rehabilitation as well. Debt counselling and debt review provide customers with an alternative resolution to over-indebtedness other than more punitive outcomes such as judgements, garnishee orders, administration and sequestration. A debt counsellor negotiates in restructuring the customer's credit commitments such that it can remain affordable and be settled within a reasonable time. Once the loan(s) have been settled in full, the customer will be eligible to apply for credit again and via credit amnesty, negative credit records would most likely have been removed. The debt counsellor should emphasise to the customer, during a consultation, the importance of not finding themselves in a similar situation again. It serves no purpose to the consumer's financial health, once released from debt review, to find themselves in a position of over-indebtedness again simply because they have been afforded another opportunity to take up more unsecured credit.

## 5.5 SUGGESTIONS FOR FUTURE RESEARCH

The focus of this study was on investigating trends in consumer credit with specific reference to unsecured lending. The size of the unsecured credit market was compared to that of the total credit market in order to determine which category of credit seeking consumers prefers this type of credit. Data was obtained from secondary sources and analysed in order to draw quantitative conclusions.

The following recommendation for future research is suggested:

- A qualitative study on the experiences of over-indebted microfinance customers. The research should focus on analysing issues that influence the customer's ability to make responsible financial decisions, reasons for over-indebtedness and the negative effects of over-indebted consumers on society.

## 5.6 SUMMARY

This chapter serves as a summary of the main findings of the research study. The purpose of each chapter is explained and the extent to which the research objectives were met is discussed. Recommendations were put forward as possible solutions for dealing with consumer over-indebtedness as a result of unsecured lending and a suggestion for future research was briefly mentioned.

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## ANNEXURE A UNSECURED DATA TABLES

### TABLE I : UNSECURED CREDIT GRANTED PER INCOME CATEGORY IN RAND VALUE

| Quarter | R0-R3500 | R5501-R7500 | >R15k |
|---|---|---|---|
| **2008Q1** | 2 017 094 | 820 289 | 1 399 563 |
| **2008Q2** | 2 431 730 | 844 462 | 1 386 071 |
| **2008Q3** | 2 577 708 | 818 612 | 1 322 521 |
| **2008Q4** | 2 664 119 | 827 165 | 1 379 585 |
| **2009Q1** | 2 008 484 | 725 733 | 1 405 390 |
| **2009Q2** | 2 274 997 | 738 714 | 1 421 014 |
| **2009Q3** | 2 603 660 | 818 016 | 1 698 429 |
| **2009Q4** | 1 678 417 | 1 303 599 | 2 694 022 |
| **2010Q1** | 1 256 097 | 1 187 705 | 3 112 861 |
| **2010Q2** | 1 445 876 | 1 187 705 | 3 698 769 |
| **2010Q3** | 1 740 365 | 1 350 875 | 4 027 995 |
| **2010Q4** | 2 491 116 | 1 605 101 | 514 277 |
| **2011Q1** | 1 890 084 | 2 019 730 | 5 966 125 |
| **2011Q2** | 2 141 777 | 1 937 743 | 6 657 911 |
| **2011Q3** | 2 493 855 | 2 198 926 | 7 392 903 |
| **2011Q4** | 2 947 568 | 2 404 420 | 9 725 894 |
| **2012Q1** | 2 469 519 | 3 113 142 | 7 932 030 |
| **2012Q2** | 2 387 886 | 2 466 268 | 9 595 176 |
| **2012Q3** | 2 412 361 | 3 224 732 | 10 072 191 |
| **2012Q4** | 2 898 334 | 2 875 065 | 11 981 994 |
| **2013Q1** | 1 622 867 | 2 889 417 | 10 216 319 |
| **2013Q2** | 495 429 | 2 079 347 | 17 357 867 |
| **2013Q3** | 516 649 | 1 146 874 | 17 089 995 |
| **2013Q4** | 1 491 191 | 842 291 | 10 094 881 |
| **2014Q1** | 1 038 688 | 1 862 095 | 9 353 458 |
| **2014Q2** | 1 237 346 | 1 504 273 | 9 316 377 |
| **2014Q3** | 1 038 782 | 1 544 629 | 9 077 098 |
| **2014Q4** | 1 041 823 | 1 383 095 | 9 337 793 |
| **2015Q1** | 123 519 | 1 409 113 | 419 303 |
| **2015Q2** | 102 975 | 118 050 | 322 304 |
| **2015Q3** | 144 637 | 90 055 | 320 251 |

## TABLE II: UNSECURED LOANS GRANTED IN NUMBER

| YEAR | UNSECURED LOANS | MORTGAGE LOANS |
|---|---|---|
| **2008Q1** | 779 619 | 83 627 |
| **2008Q2** | 795 595 | 81 187 |
| **2008Q3** | 812 307 | 65 688 |
| **2008Q4** | 870 110 | 52 134 |
| **2009Q1** | 668 063 | 36 549 |
| **2009Q2** | 663 750 | 33 246 |
| **2009Q3** | 722 321 | 33 114 |
| **2009Q4** | 822 714 | 37 130 |
| **2010Q1** | 713 026 | 35 441 |
| **2010Q2** | 806 280 | 39 019 |
| **2010Q3** | 920 035 | 42 074 |
| **2010Q4** | 1 156 521 | 42 650 |
| **2011Q1** | 1 061 157 | 38 544 |
| **2011Q2** | 1 148 461 | 38 324 |
| **2011Q3** | 1 303 855 | 45 766 |
| **2011Q4** | 1 547 993 | 42 283 |
| **2012Q1** | 1 229 249 | 37 181 |
| **2012Q2** | 1 349 570 | 39 198 |
| **2012Q3** | 1 317 268 | 40 848 |
| **2012Q4** | 1 591 770 | 38 694 |
| **2013Q1** | 1 294 155 | 34 760 |
| **2013Q2** | 1 271 706 | 39 011 |
| **2013Q3** | 1 149 360 | 43 972 |
| **2013Q4** | 1 227 023 | 38 025 |
| **2014Q1** | 1 043 079 | 39 336 |
| **2014Q2** | 1 101 569 | 43 394 |
| **2014Q3** | 1 066 164 | 42 850 |
| **2015Q1** | 1 247 379 | 36 442 |
| **2015Q2** | 1 156 611 | 40 175 |
| **2015Q3** | 849 938 | 44 672 |
| **2015Q4** | 1 074 497 | 43 143 |

**TABLE III : UNSECURED CREDIT GRANTED IN RAND VALUE**

| QUARTER | UNSECURED CREDIT | MORTGAGE CREDIT |
|---|---|---|
| **2008Q1** | R 7 158 455 751 | R 44 618 899 159 |
| **2008Q2** | R 7 595 574 007 | R 42 692 788 753 |
| **2008Q3** | R 7 656 294 984 | R 33 765 928 555 |
| **2008Q4** | R 7 971 227 456 | R 27 187 875 526 |
| **2009Q1** | R 6 792 703 557 | R 18 932 756 270 |
| **2009Q2** | R 7 171 291 231 | R 17 660 597 573 |
| **2009Q3** | R 8 373 634 104 | R 17 817 046 497 |
| **2009Q4** | R 10 536 173 216 | R 21 082 462 357 |
| **2010Q1** | R 10 003 568 413 | R 20 809 942 795 |
| **2010Q2** | R 11 752 756 755 | R 23 614 617 248 |
| **2010Q3** | R 13 384 912 935 | R 26 340 185 202 |
| **2010Q4** | R 16 834 872 579 | R 26 867 971 053 |
| **2011Q1** | R 16 694 203 723 | R 24 759 915 098 |
| **2011Q2** | R 18 954 134 372 | R 25 448 516 277 |
| **2011Q3** | R 21 213 694 333 | R 30 278 386 442 |
| **2011Q4** | R 26 451 931 459 | R 29 313 824 857 |
| **2012Q1** | R 21 949 603 593 | R 24 563 229 757 |
| **2012Q2** | R 25 801 032 909 | R 26 943 316 194 |
| **2012Q3** | R 25 972 653 962 | R 28 764 393 372 |
| **2012Q4** | R 29 072 652 461 | R 28 603 463 123 |
| **2013Q1** | R 22 592 797 391 | R 25 039 734 186 |
| **2013Q2** | R 22 064 443 520 | R 25 039 734 186 |
| **2013Q3** | R 20 897 196 088 | R 30 099 217 803 |
| **2013Q4** | R 21 614 882 254 | R 34 521 936 086 |
| **2014Q1** | R 18 822 311 934 | R 30 839 051 731 |
| **2014Q2** | R 19 319 743 787 | R 33 183 161 450 |
| **2014Q3** | R 18 233 926 001 | R 36 891 646 739 |
| **2014Q4** | R 18 702 266 073 | R 36 280 429 958 |
| **2015Q1** | R 17 400 812 991 | R 31 739 678 477 |
| **2015Q2** | R 17 445 341 266 | R 36 292 828 350 |
| **2015Q3** | R 20 655 900 849 | R 39 389 512 571 |
| **2015Q4** | R 22 466 737 865 | R 39 638 416 907 |